

BIRMINGHAM.

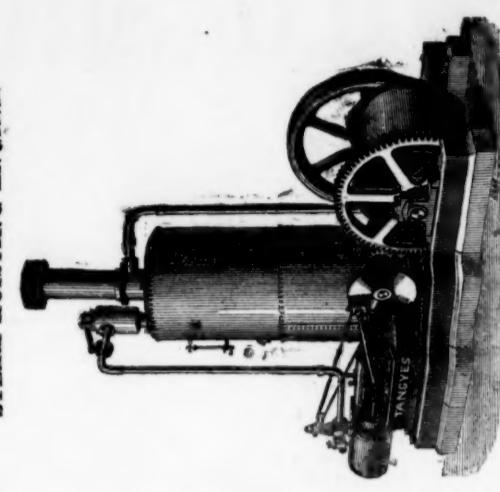
(No. 11a.)

GLASGOW: Argyll Street.

MANCHESTER: Deansgate.

TANGYE'S PORTABLE

STEAM HOISTING ENGINE.



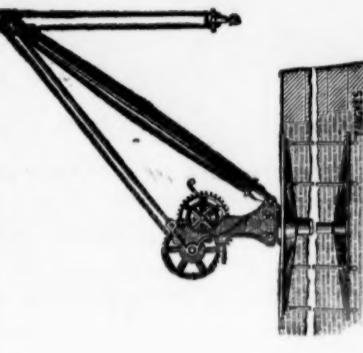
This arrangement consists of a "Tangye" engine with feed pump, spur pinion on the engine shaft, working into a spur wheel on the drum shaft, cast-iron drum with shaft and carriage, foot-soldier, and friction clutch, to throw the drum in and out of gear. The boiler has the necessary steam and furnace fitting described in catalogue. The whole is mounted on a cast-iron base. The winding drum can be thrown out of gear and the engine then used for driving purposes.

Diam. cylinder.	Length Stroke.	Speed rope per minute.	Tested.	Price.	Aprox. weight.
6 in.	12 in.	200 ft.	7 cwt.	£140	65 cwt.
8 "	16 "	250 "	10 "	185	95 "
9 "	18 "	300 "	12 "	225	110 "

Link motion, reversing gear, extra.

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TANGYE'S HAND WHARF CRANE.



With single and double purchase lifting gear, powerful strap brake and lever, two winch handles, strong iron column and bed-plate, turned roller path, adjustable balance box, which may be regulated according to the weight raised, wood jib, sufficient chain with block to reach ground level, the whole mounted upon strong wood-framed travelling carriage, with four cast-iron wheels, with wrought-iron axles for rails of any gauge, sufficient to afford the necessary base for stability.

Diam. cylinder.	Length Stroke.	Radius.	Price.
6 in.	12 cwt.	8 ft.	£23
8 "	1 ton.	8 "	32
9 "	1½ ton.	9 "	37
10 "	2 ton.	10 "	41
12 "	3 ton.	12 "	48
14 "	4 ton.	14 "	57
16 "	5 ton.	16 "	67
18 "	6 ton.	18 "	77
20 "	7 ton.	20 "	87

The 12 cwt. and 1 ton Cranes have single purchase gear only and fixed balance. This Crane can be supplied with wrought-iron plates, tubular or cast-iron plates, and wrought-iron carriage with chequered iron floor plates, at an extra cost. Our Patent Safety Brake, as described in catalogue, can be supplied to above Cranes at a slight extra cost. This Brake is a safety or protection device, preventing the load when the men have left the machine, from falling, or overturning, when gauge or rails or it is required to stand.

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R. HUDSON'S

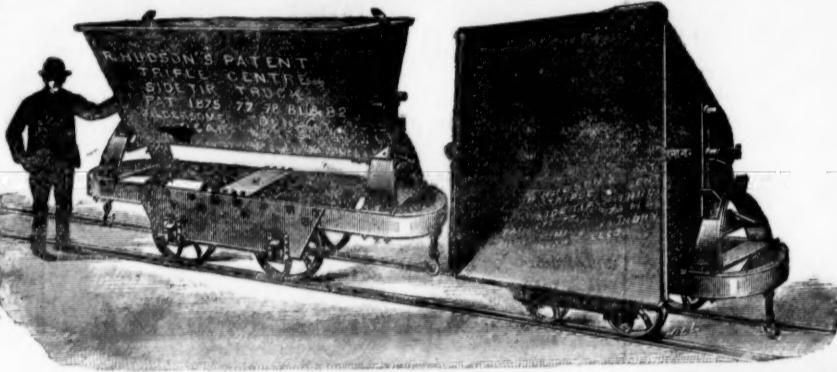
Patent Steel Trucks, Points and Crossings,

PORTABLE RAILWAY, STEEL BUCKETS, &c., &c.

Patented in Europe, America, Australia, India, and British South Africa, 1875, 1877, 1878, 1881, and 1883.

N.B.—The American, Indian, Australian, and Spanish Patents on Sale.

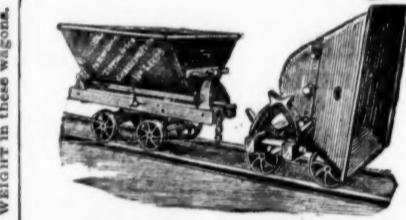
23.—PATENT TRIPLE CENTRE SIDE TIP TRUCK.



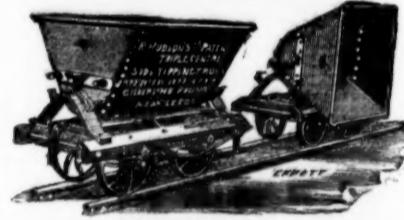
1.—PATENT STEEL END TIP WAGONS.



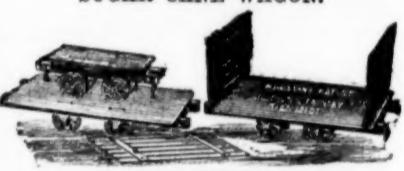
2. PATENT UNIVERSAL TRIPLE-CENTRE STEEL TIPPING TRUCK,
Will tip either side or either end of rails.



3.—PATENT TRIPLE-CENTRE STEEL SIDE TIP WAGONS.



4.—PATENT STEEL PLATFORM OR SUGAR CANE WAGON.

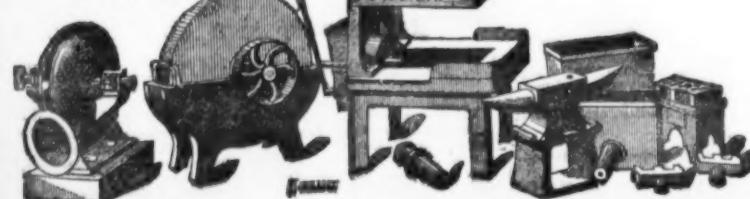


5.—PATENT STEEL CASK.
As supplied to H.M. War Office for the late war in Egypt.
Double the STRENGTH of ordinary Casks without any INCREASE in weight.
Made from 10 gal. capacity UPWARDS to any desired size.



6.—ROBERT HUDSON'S
PATENT IMPROVED IRON SMITH'S HEARTH,
NO BRICKWORK REQUIRED.

A Special quality made almost entirely in STEEL, effecting a GREAT SAVING IN WEIGHT.



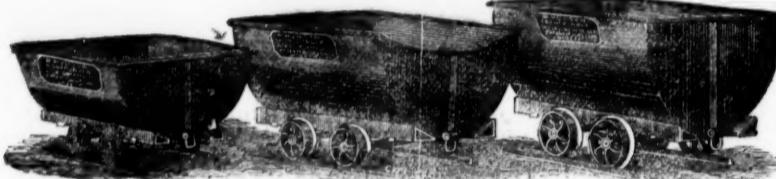
Large numbers in use by all the principal Engineers in this country and abroad.

GILDERSOME FOUNDRY, NEAR LEEDS.

Upwards of 25,000 of these Trucks and Wagons have been supplied to the South African Diamond Mines; American, Spanish, Indian, and Welsh Gold, Silver, Copper, and Lead Mines; Indian and Brazilian Railways, and to Railway Contractors, Chemical Works, Brick Works, and Coal and Mineral Shippers, &c., &c., and can be made to lift off the under-work, to let down into the hold of a vessel, and easily replaced. They are also largely used in the Coal and other Mines in this country, and are the LIGHTEST, STRONGEST, and most CAPACIOUS made, infinitely stronger and lighter than wooden ones, and are all fitted with R. H.'s Patent "Rim" round top of wagons, requiring no rivets, and giving immense strength and rigidity. End and body plates are also joined on R. H.'s patent method, dispensing with angle-irons or corner plates.

One man can tip any weight with ease.

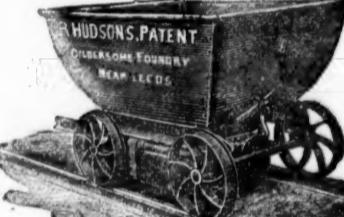
7.—PATENT STEEL MINING WAGONS.



8.—PATENT DOUBLE-CENTRE STEEL SIDE TIP WAGONS.
Will tip either side of Wagons.



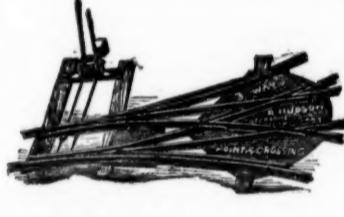
12.—PATENT STEEL HOPPER WAGON, with BOTTOM DOORS.



10.—LEFT-HAND STEEL POINT AND CROSSING.



11.—RIGHT AND LEFT-HAND STEEL POINT AND CROSSING.



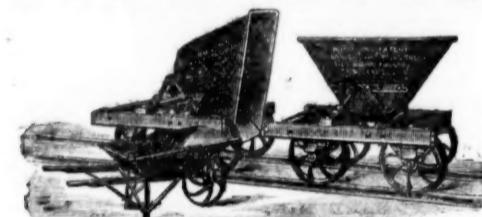
14.—SELF-RIGHTING STEEL TIP BUCKET.
The "Catch" can also be made self-acting if desired.



15.—R. HUDSON'S Patent Steel Cage and "Fallers," &c., complete.



24.—R. H.'s PATENT BALANCED END TIP



18.—"AERIAL" STEEL WINDING TUB.



16.—PATENT STEEL WHEELBARROWS.



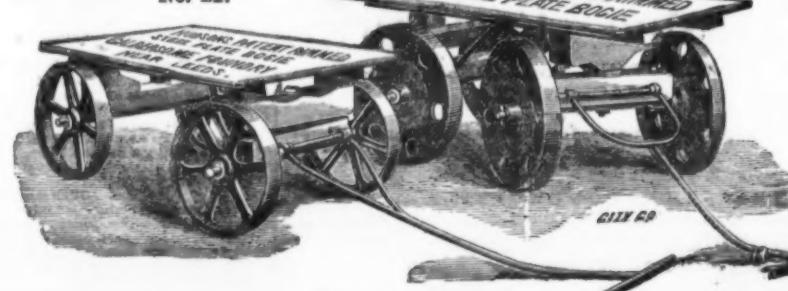
Made to any Size.
Lightest and Strongest in the Market.

A great success.

25.—PIG-IRON BARROW.
R. H.'s Patent



No. 29.



ALL KINDS OF BOLTS, NUTS, AND RIVETS MADE TO ORDER ON THE PREMISES.

Pumping Engines
for
Mines, Water Works,
Sewage Works,
and
General Purposes.

CATALOGUES ON

See Exhibits at Stand No. 1195, West Annex; and also in the Electric Lighting Department, Inventions Exhibition, London.

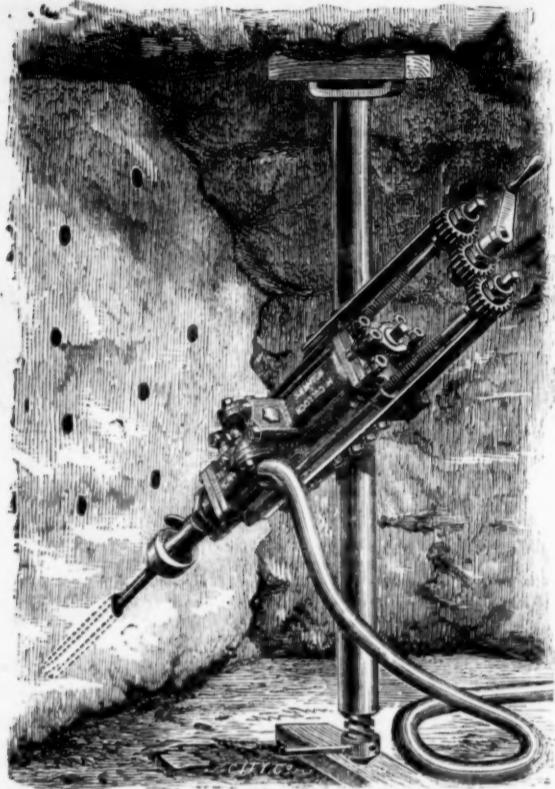
This Drill may be seen at work any hour from 10 A.M. to 6 P.M. at the International Inventions Exhibition, Stand No. 194, North Court, South Galleries.

1ST SILVER MEDAL, ROYAL CORNWALL POLYTECHNIC
—Highest Award for Effectiveness in Boring, and Economy in the Consumption of Air.

JUBILEE EXHIBITION, 1882.

THE PATENT

"CORNISH" ROCK DRILL.



FIRST SILVER MEDAL AWARDED AT BORING COMPETITION, DOLCOATH MINE, 1881.

The "CORNISH" ROCK DRILL and "CORNISH" COMPRESSOR

Are now largely in use, and in every case are giving entire satisfaction.

For Testimonials, Illustrated Catalogues and prices, apply to—

HOLMAN BROTHERS,
CAMBORNE FOUNDRY,

MAKERS OF

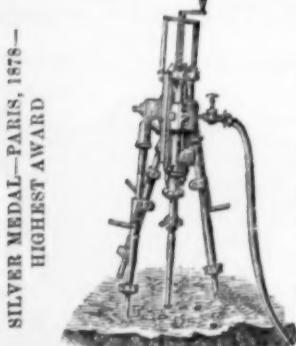
MICHELL & TREGONING'S PATENT PULVERISER, and HOLMAN'S IMPROVED STEAM or AIR PUMPING and WINDING ENGINE for Underground Quarries or Shallow Mining. Indispensable for Shaft Sinking with Rock Drills. Also makers of all kinds of MINING MACHINERY at

THE CAMBORNE FOUNDRY AND ENGINE WORKS,
CAMBORNE, CORNWALL.

THE PATENT

"ECLIPSE" ROCK-DRILL
AND
"RELIANCE" AIR-COMPRESSOR."

First Silver Medal awarded at Boring Competition, East Pool Mine, Sept. 1883.



FOR ILLUSTRATED CATALOGUE AND PRICES, apply to—
HATHORN & CO., 22, Charing Cross, London, S.W.

THE PATENT

"Cranston" Rock Drill,
AIR COMPRESSOR, AND DEEP BORING
MACHINERY.

For prices, and particulars of rapid and economical work accomplished, apply to

J. G. CRANSTON,

GREY STREET, NEWCASTLE-ON-TYNE.

CALIFORNIAN AND EUROPEAN AGENCY.
509, MONTGOMERY STREET, SAN FRANCISCO CAL.

J. JACKSON, Manager.

PUMPING & MINING MACHINERY.

HATHORN, DAVEY, & CO., LEEDS.

Hydraulic Pumps,
Winding Engines,
Air Compressors,
Man Engines,
Capstans,
&c., &c.

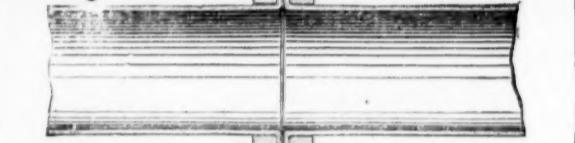
APPLICATION.

INGERSOLL ROCK DRILL.

WE CLAIM 40 PER CENT. GREATER EFFECTIVE DRILLING POWER.



WROUGHT-IRON STEAM TUBES.



IMPROVED PATENT ROTARY

HELICO-PNEUMATIC STAMPING MILLS.

TUBES FOR BOILERS, PERKINS'S, and other HOT-WATER SYSTEMS.

FOR CATALOGUES OF ROCK DRILLS, AIR COMPRESSORS, STEEL OR IRON STEAM TUBING, BOILER TUBES, PERKINS'S TUBES, PNEUMATIC TUBES, and all kinds of MACHINERY and MINING PLANT, apply to—

LE GROS, MAYNE, LEAVER & CO.
60, Queen Victoria Street, London, E.C.

FOR EXCELLENCE
AND PRACTICAL SUCCESS
OF ENGINES.



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MODEL EXHIBITED BY
THIS FIRM.

HARVEY AND CO.,

(LIMITED)

ENGINEERS AND GENERAL MERCHANTS,
HAYLE, CORNWALL.
LONDON OFFICE—186, GRESHAM HOUSE, C.

MANUFACTURERS OF
PUMPING and other LAND ENGINES and MARINE STEAM ENGINES
of the largest and most approved kinds in use, SUGAR MACHINERY,
MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.
SHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF

HUSBAND'S OSCILLATING STAMPS.

These Stamps are now working on the "Owen Vean" Mine, near Marazion, and may be seen on application to Mr. Derry, the manager. Four heads stamp from 80 to 90 tons of tin stone, ordinary hardness, in 24 hours. The consumption of fuel is much less per ton of stone stamped than by the old system, and the wear and tear also much less. See Mr. Derry's paper (extract of which appeared in the Mining Journal of Nov. 1st, 1884) on these stamps read before the Mining Institute of Cornwall.

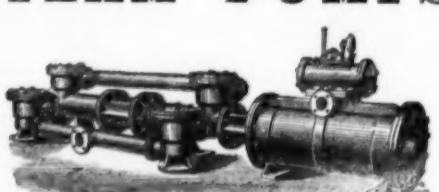
SECOND-HAND MINING MACHINERY FOR SALE,

IN GOOD CONDITION, AT MODERATE PRICES—viz.,

PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES, STEAM CAPSTANS; ORE CRUSHERS; BOILERS AND FITWORK of various sizes and descriptions: and all kinds of MATERIALS required for MINING PURPOSES.

HAYWARD TYLER & CO.
LONDON.
2 GOLD, 4 SILVER, AND 4 BRONZE MEDALS.

STEAM PUMPS.



THE "UNIVERSAL," for HIGH LIFTS.

SECOND EDITION. JUST PUBLISHED, PRICE 8s. 6d.

A NEW GUIDE TO THE IRON TRADE,
OR MILL MANAGERS' AND STOCK-TAKERS' ASSISTANT;
Comprising a Series of New and Comprehensive Tables, practically arranged to show at one view the Weight of Iron required to produce Boiler-plates, Sheet Iron, and Flat, Square, and Round Bars, as well as Hoop or Strip Iron of any dimensions. To which is added a variety of Tables for the convenience of merchants, including a Russian Table.

BY JAMES ROSE,
Batman's Hill Ironworks, Bradley, near Bilston.

OPINIONS OF THE PRESS.

"The Tables are plainly laid down, and the information desired can be instantaneously obtained."—Mining Journal.

"900 copies have been ordered in Wigan alone, and this is but a tithe of those to whom the book should command itself."—Wigan Examiner.

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To be had on application at the MINING JOURNAL Office, 26 Fleet-street, London.

AIR COMPRESSORS,

With R. SCHRAM'S

PATENT

INLET AND OUTLET VALVES.

BOILERS, TURBINES.

SCHRAM'S IMPROVED

ROCK DRILL.

1600 in Use in all Parts of the World.

COMPLETE ROCK BORING PLANTS of the most approved construction for RAILWAY TUNNELS, QUARRIES, SHAFT SINKING, LEVEL DRIVING, STOPING, and SUBMARINE BLASTING.

ALL KINDS OF MINING MACHINERY.

ESTIMATES AND FULL PARTICULARS ON APPLICATION

RICHARD SCHRAM & CO.,

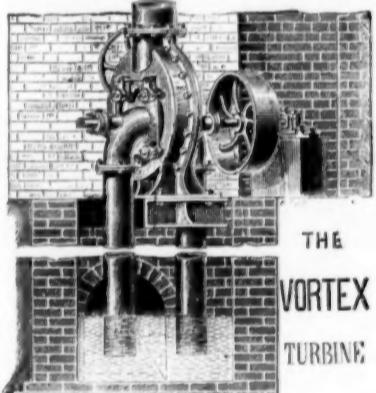
9, NORTHUMBERLAND STREET, CHARING CROSS,
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LATE

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A most efficient means of applying Water Power to all kinds of Machinery.

Largely used in DRIVING AIR COMPRESSORS, PUMPING, WORKING ORE-CRUSHING MACHINERY, and for other purposes in connection with MINING.

Successfully used in ELECTRIC LIGHTING, and in utilising DISTANT WATER POWER by means of ELECTRICITY.

A Pamphlet containing a full description of the Vortex, with several Illustrations and a number of Testimonials, can be obtained on application.

TUNNELLING. EXCAVATION. BLASTING.

WORK OF THE ABOVE DESCRIPTION UNDERTAKEN BY CONTRACT IN ANY PART OF THE WORLD.

ENGINES, AIR COMPRESSORS,
ROCK DRILLS,

And every Description of Rock Boring and Excavating Plant supplied on Hire or Purchase.

BEST TERMS FOR EXPLOSIVES—MUCH SAFER AND MORE POWERFUL THAN DYNAMITE.

PICK AND SHOVEL DISTANCED AS REGARDS TIME AND COST BY OUR PATENT SYSTEM OF APPLYING EXPLOSIVES AND MACHINERY TO THE EXCAVATION OF EARTH, CLAY, SAND, GRAVEL, SOFT ROCK, &c.

BYRNE & CO.,

ENGINEERS AND CONTRACTORS,

12, BUCKINGHAM ST., STRAND, LONDON, W.C.

THE IRON AND COAL TRADES REVIEW

The IRON AND COAL TRADES REVIEW is extensively circulated among the Iron Producers, Manufacturers, and Consumers, Coalowners, &c., in all the iron and coal districts. It is, therefore, one of the leading organs for advertising every description of Iron Manufactures, Machinery, New Inventions, and all matters relating to the Iron, Coal, Hardware, Engineering, and Metal Trades in general.

Offices of the Review: 342, Strand, W.C.

Remittances payable to W. T. Pringle.

Original Correspondence.

DYNAMITE.

SIR.—In your report from Cornwall last week reference is made to this subject, suggesting a combination of mines making dynamite on their own account. An easier solution would be to carry out the suggestion originally started a few weeks ago by Mr. Waddington, namely, the formation of a small limited company (to be called, say, "The West of England Dynamite and Explosive Company"). The capital wanted would be far less than that required to develop a mine; 10,000*l.* should be ample. A company so formed would realise good profits to its shareholders, and greatly benefit mining. I have little doubt but the capital would be quickly subscribed for by the shareholders in British and other mines. The interests of the proposed dynamite company and the mines being identical, custom would be secured and both benefited. As advertised, I shall be happy to receive communications from gentlemen willing to become either directors or shareholders. The proposal for a company has already been favourably received. We have heard a great deal of late about Acts of Parliament to benefit or protect mining, but here is a way open for shareholders to protect themselves, "self help" being always the best help. In May, 1884, the dynamite companies were competing for custom and offering to supply as low as 7*l.* per ton, and a mine I am connected with is still having dynamite under contract at that price, while others who did not contract, or whose contracts have run out now pay 11*l.* per ton.

EDWARD ASHMEAD.

2, Drapers' Gardens, London, November 3.

ENGLISH AND AUSTRALIAN COPPER COMPANY (LIMITED).

SIR.—A very large number of shareholders of this company, in view of its unsatisfactory position, ask for a committee of enquiry, which the directors oppose on the usual evasive pleas of injury to credit and so forth. Very few words will show the urgent need of such enquiry which can only tend to good, strengthening the directors and the company if the management has been judicious, and on the other hand bringing about changes and reforms if they are needed. The shares, 50*s.* paid, are to-day quoted on the Stock Exchange at 5*s.* to 10*s.*, which means that the entire concern, capital 175,000*l.*, is valued or selling at some 25,000*l.*, although, not to speak of reserve fund, one only of the company's several valuable properties is valued by the Chairman at 50,000*l.* During the last 9*1/2* years copper has been made and sold to the amount of 1,180,000*l.*, upon which large turnover no profit whatever was made, for, although 28,000*l.* has during that time been paid in dividends, it has been entirely made up by profits of wharf 18,435*l.*, by depletion of reserve fund to the extent of 5450*l.*, and by interest, unclaimed dividends, fees, and other scrapings apart from the smelting business. The directors excuse for this terrible result is fall in price of copper, but reference to reports for years 1881 and 1884 will show large sales, stocks, and course of prices largely in favour of the company, and such as should have yielded large profits, and, besides, directors should sometimes at least be able to overcome difficulties. While only 18,435*l.* has thus been earned the directors have taken to themselves fees to the amount of 7100*l.* They refused, among other points, to inform the writer, a shareholder, the salaries of the manager and the secretary. It is, however, quite certain that these two officials, and the five directors, seven persons in all, have received nearly, if not quite, as much money during the time in question as earned on the entire business. These astounding results can hardly be wondered at when it is seen that in same period no less than 32,000*l.* was paid in interest upon loans to the amount of some 40,000*l.* At the meeting in February last one of the auditors pointed out, as a great thing, that in 28 years 136,000*l.* had been paid in dividends upon the 175,000*l.* capital. Will he kindly contrast these ways of earning and of spending money, and at the same time tell us the entire sum paid for interest during these same 28 years. And all the time that these ruinous terms are being paid the directors persist in retaining year after year in the hope of better terms, various properties, each worth many thousands, and now and for years entirely unproductive. Can they not see that such a course is simply madness; that no mere expectation whatever, however well founded, of better terms, or increased values, can justify borrowing under such circumstances at either 7 or 8 per cent., such rates meaning cent. per cent. in seven and eight years respectively. The 10,000*l.* reserve fund, on which the Chairman dwells so much, and which used in the business should save 800*l.* or 900*l.* yearly, does not produce half so much, and the small amount it does make is concealed from the shareholders, being, unknown to them, deducted from the item "Interest paid in Australia," a plan which falsifies the accounts on both sides, making both income and expenditure appear less than they are.

If the shareholders wish, in the first place, to ascertain whether, in view of the present copper deluge—likely enough to deepen—it is possible profitably to continue the company's operations, and if it is, then, in the next place, to ensure sound and economical management throughout, they should by all the means in their power support this movement for a committee of enquiry.

ISAAC HADFIELD.

Mechanics' Institute, Stockport, November 4.

CHONTALES.

SIR.—On Monday last I called at the Chontales office in expectation that the month's account for September would have arrived. In your Journal of Saturday last I read the report from the manager of the Javali Mine, which property adjoins that of the Chontales. As duplicate letters each month are expected to be sent by our managers, the presumption is that our acting manager has not forwarded duplicate letters the last two months, and as a consequence we are without information beyond that for the month of July last. There have been interruptions in transit both by the Atlantic and Pacific routes. Allow me to draw the attention of the shareholders in the Chontales Company to the report for the month of June last. Our acting manager states that he has driven three levels at the end of which there is good payable ore with 70 ft. of backs; in the July report he states that having no candles he has been delayed several days, the stamps having worked 17 days, and crushed 450 tons of ore averaging 3 2-5*th* dwts. per ton. It is now a considerable length of time since more than 500 tons have been treated during the month for some years, 1500 tons was the average per month during the year, whilst the return of gold forwarded was 3 2-5*th* dwts. a ton. The San Antonio Mine when formerly worked, Mr. White informed us at our last meeting, gave an average of 13 dwts. a ton; by calculation I have made 10 dwts. would be nearer. I asked for the plan of operations sent for the month of July, and upon inspection was much surprised to find that instead of working under the rich portion of the mine where 20,000 tons of good payable quartz had been taken that the quartz had been taken from a comparatively short distance from the entrance of level driven after the amount of money spent to reach the rich portion of the mine than to abandon the certainty for the uncertainty. Anyone who has examined the places of operation, as I have, cannot trace any previous inducement from working that portion of the mine now worked. I ask the question, Has Mr. White instructed his nephew in the course he is now pursuing? If so, for what object? As regards Mr. White's return to the mines, we have had his services for over seven years, and ask what benefit have the shareholders derived? When he succeeded Mr. Danby on entering upon his duties at the mines he gave profits for a time, and instead of crushing 500 tons, or about that quantity a month, he crushed over 1000 tons, and gave profits for a time. I should suggest that a fresh manager be appointed. We have had no advantage from either of the former managers, excepting for a time when Mr. Smeddle was at the mines. I still believe the mine to be a good one, and, as was stated by Mr. Bell-Davies, it ought to have been payable from its commencement—he giving a demonstrative proof for his assertion. It is much to be regretted that the apathy that exists amongst many of the shareholders who have a large stake in the undertaking.

W. B. PALMER.

BETTWS-Y-COED LEAD MINE.

SIR.—If "A Believer in One and All" is interested in the mines referred to, or is acquainted with the position of affairs, it is probable that on further reflection he will come to the conclusion that he has put his first proposition in a wrong light. Had the landlord or his agents insisted upon the working clauses that a certain number of miners be constantly employed, and at the same time the payment of rents merely to hold the mines, then his proposition might hold water. But in several of the mines in question no miners are employed, the rents are unpaid, and so are the caretaker's services, and I think most right-minded people will agree with me that such mine-owners should either pay their rents and servants, and put their mines in order, or give them up, for it does concern the miner as well as the landlord, without ameliorating the position of the mine-owner, or entitling him to the sympathy usually accorded by "One and All" to those in difficulties, for the simple reason that by so doing he has taken the place of the "dog in the manger," by neither working the mines himself, or keeping them in such order that the miner could do it for him on tribute; and, consequently, the landlord is without his rents, the tributary is deprived of his employment and support, and "One and All" suffer. These remarks, however, are not intended to apply to other districts and mines, where the cost of maintenance and production are so heavy that it becomes a question of vital importance how, with present low prices, they are to maintain their existence at all, and where it behoves "One and All," landowner, mineowner, and miner to unite their interests to save the position. But, "A Believer" will probably say, that is just your position at Bettws-y-Coed. True—but with a difference. Two-thirds of our large expensive lead mines are already numbered with the past, and many more are soon likely to go over to the majority, unless we have an immediate rise in prices, and these could only be brought back to a new existence at great cost after the markets have permanently risen. But here we have a happily situated group of 10 or 12 young mines within a radius of about 1 mile from a given central point, approachable by adit levels from the sides and flanks of the mountain, on known productive lodes, and with increasing backs towards the centre of 130 to 140 fathoms, only waiting the combination of present or new owners, and the introduction of a practical form of working, to open the mines of the future, on the speediest and cheapest known system of mining, viz., by rock drills, driven by water power, and which can never be done cheaper than now, and as the profitable results of such combined operation is not (and never has been) doubted by practical minds, the only question is, why do we stagnate? It is not so long since the tin trade was in quite a deplorable condition, and we were told it would never revive again in this country, but results have falsified those gloomy predictions, and so will it be with the lead trade. The surface deposits of new countries and rich bonanzas soon become exhausted, and deeper mining becomes more expensive, and frequently with less yield, while the world's consumption ever increases, and never before so fast as now, and those who can develop new and inexpensive home mines, whether of tin, copper, or lead, need have no fear of a profitable market for their productions. But to return to "A Believer's" question as to royalties. In this district they have gone hand in hand with the times. Some 40 or 50 years' since it was at a 6*th* or 7*th*, then reduced to an 8*th*, 10*th*, and 12*th*, with at present a sliding-scale of 1-15*th* when lead ore is below 12*l.* per ton, and 1-12*th* if it goes above that. In some extensive properties that I am connected with in another part of the county new leases have been obtained for 40 years at 1-20*th*, and this I consider equitable, and have proved it attainable.

CHARLES KNEEBONE.

HOME LEAD, AND FOREIGN COMPETITION.

SIR.—I venture to point out this important fact to your correspondent "One of the People":—Every market has two sides. How can we expect the people of this country to buy Welsh lead when they can get Spanish lead at half the price?

Dunfermline, November 4.

KENNETH MATHIESON, Jun.

TANKERVILLE GREAT CONSOLS.

SIR.—Can any of your readers say what is doing in this matter? It appears to me that the old shareholders are wonderfully forgetful of their interests if they allow this valuable property to be sacrificed when by a little judicious management the whole could be saved to them, and they would at least recover something in time. Last July a syndicate was formed, or attempted to be formed, for the purchase of the property. The money then paid is now lying idle at the bank. Apparently there was not sufficient contributed to enable the affair to be carried out; but surely the shareholders if properly appealed to would see the advantage of contributing a certain amount, so as to start this once flourishing mine, or series of mines, on a better basis, and ultimately be rewarded for their patience.

November 2.

N.

MANGANESE ORE.

SIR.—The demand for ferro-manganese and spiegeleisen, due to the growth of the steel trade, has caused a considerable amount of exploitation in various parts of the world for manganese ore. Having had considerable experience in this class of ore during the last few years not a few instances have come before us in which considerable trouble and expense has been incurred in sending to England large parcels of ore which are either largely or totally unsuitable for the above purpose, and indeed for most others. It should be understood that the percentages of metal, of silicon and phosphorus, are very important elements for steel-making, and the percentages of peroxide, phosphoric acid, and carbonates for chemical purposes. It would be well in all cases before mining to any extent to send to England merely a sufficient quantity for analysis and report, which sample should fairly represent the bulk. It may not be generally known, but it is all the same a fact, that the demand for manganese ore for steel purposes comes in to fill a somewhat aching void caused by the general adoption of the Weldon process in the manufacture of bleaching-powder, which has enormously reduced the use of manganese in chemical works. We will at any time be glad to give any information in our power to anyone interested in the use or production of manganese ore.

JOHN BIRCH AND CO.

Buxton Buildings, Chapel-street, Liverpool, October 28.

EAST BLUE HILLS.

SIR.—Fair progress is being made in sinking the shaft, which is nearly down to the 30 fm. level; the lode is more than double the width of the shaft, which is carried down against the north or hanging-wall for safety and economy. This wall being hard and firm requires no timbering for the protection of the machinery in the shaft, but on the other hand the south or footwall part of the lode is the best, being worth where last cut through 30*l.* per cubic fathom, or 70*l.* per fathom for the length of the shaft. On reaching the 30 fm. level it will be again cut through and driven on, and if found as good there as in the 20 will lay open a splendid piece of ground. This is being looked forward to with no little excitement, as the 20 fm. level has already passed through this course of 40 fathoms, and still extending in the western end. The eastern end being in the cross-course may be expected to resume its productiveness as soon as it is through it, which will come off in course of a day or two. In the back of this level four good stopes have been laid open, worth on an average about 20*l.* per fathom, the cost of extraction being only 3*l.* per fathom, which leaves a profit of 12*l.* per fathom, after deducting dressing and all other expenses. In the 10 fm. level east the manager reports that the lode is improving, and that there is every appearance of its entering a new course of tin, the lode being worth 7*l.* per fathom for 18 in. wide, or 23*l.* per cubic fathom; the cost of stoping a cubic fathom is 8*l.*, leaving 20*l.* to cover dressing cost, which means 15*l.* per cubic fathom profit. I give this explanation because great confusion prevails as to the real value of a lode; 7*l.* per fathom means nothing. Is it a linear or cubic fathom? In this case it is a linear or superficial fathom of the lode, had it been a cubic fathom the 7*l.* worth of tin would have been con-

tained in 16 tons of stuff instead of 4 tons, and the cost of stoping would be double, so that there would be very little profit on the operation. In the 20, when the lode narrowed in the eastern end to 3 ft. wide, worth 25*l.* per linear fathom, many thought the whole thing had bursted up, because it had previously been worth 35*l.* per cubic fathom. Now a lode worth 25*l.* per fathom 3 ft. thick is worth 50*l.* per cubic fathom, and the cost of stoping. The 50*l.* worth is 3*l.* more than the cost of extracting the 35*l.* worth, so that the lode instead of having declined was actually worth 47*l.* per cubic fathom. The same thing may be said of the lode in the adit, where it has been driven through 65 fms. long, worth from 5*l.* to 8*l.* per fathom, and a great portion of this ground is standing whole to surface 60 to 70 fms. high; the lode averages about 2 ft. thick, so that taking it at 6*l.* per linear fathom it gives 18*l.* per cubic fathom, which is good profitable ground, and it should be borne in mind that the lode adjoining this to the west was stoped away, right up to the surface, more than 100 years ago, before there was any dressing machinery to return it. I express an opinion some time ago that, as soon as the new stamps are got to work, the mine would work at a good profit. Some pretended and made many believe I was wrong altogether. Well, the late rains has enabled the water stamps to work, there are 22 heads now going by water power, and we expect 8 tons of tin this month, which will leave 150*l.* profit. Now then, if 22 heads give 150*l.*, what will an additional 48 powerful heads do? The trial of the puddling they say is in eating it, a fact, I think, which the "bears" will very soon begin to realise. WILLIAM NANCE.

P.S.—The latest from the mine reports the 10 east to have still further improved, and is now rich for both copper and tin. Copper in the St. Agnes district is the best possible indication of tin.—W. N.

THE EAST POOL SALARIES.

SIR.—Owing to my absence from this place, I did not see until a day or two since the letter in your Journal of the 17th of October, respecting the East Pool salaries, and signed "John Lean." I do not know from what source your correspondent obtained his information; but in his letter, he has entirely misrepresented the facts of the case, more especially as far as Mr. Dennis, of Liverpool, is concerned. When the committee felt obliged to desire Capt. Bishop to decline two offers for the inspection of other mines, I wrote to Mr. Dennis, as one of the members of the committee, saying that his colleagues in Cornwall thought that as Capt. Bishop was not allowed to accept these lucrative sources of emolument, that we ought to recommend the adventurers to make him a present of 20*l.* towards his expenses in going to London to see the Exhibition of Inventions. Mr. Dennis replied that he most heartily concurred in it, and, further, that as he considered Capt. Bishop was devoting all his time and energies to the minethat we ought to permanently increase his salary by bringing it up to 300*l.* per annum, saying, at the same time, that it was always advisable to pay agents well and liberally, and that as far as he was personally concerned, he had always found it good policy to do so. Now, up to the time of the account meeting, this was the only communication which had taken place between the other members of the committee and Mr. Dennis with regard to the salaries, so your correspondent's remarks respecting him were entirely unfounded, and there was not the slightest justification for his making them.

The question for increasing the sub-agents' salaries, had never been brought before the committee, and consequently could not have taken the long time to discuss, which your correspondent stated it did. What I said at the account meeting was, that on my mentioning Mr. Dennis' proposal to increase Capt. Bishop's salary to one of the members of the committee, that I happened to meet, he stated that if we did so sub-agents would be expecting and deserving of an increase also, and we asked the meeting to allow the committee to look into the matter, and consult their colleague, Mr. Dennis, on it when most probably they would be in a position to advise the adventurers to give the increased salary proposed. I am sorry that my absence through illness has prevented my writing this before to contradict the unfair charges, which have been brought against Mr. Dennis, who has always acted most liberally in all matters connected with East Pool Mine.—Redruth, November 4. JOHN HAYE.

AN AMENDED AWARD AT THE INVENTORIES.

SIR.—I have the pleasure to draw your attention to the fact that the award made to this company at the International Inventions Exhibition for the Compressed Lime (Safety) System of Coal Getting—exhibited at Stand No. 177 of the Mining Section—has been raised by the Jury Commission to the highest award of a Gold Medal, which will appear in the amended edition of the Award List.

This system of blasting has now been awarded six prize medals, four of which are gold, including the Society of Arts' special award of the "Shaw" Medal in 1884.

I venture to trouble you with this short letter, thinking that many of your readers might be interested in knowing that the lime system has received the highest awards for substitutes for violent explosives in coal mining.

R. H. CASE, Sec., The Compressed Lime Cartridge Company (Limited), 3, Queen-street, Cheapside, November 3.

THE CLIFTON HALL EXPLOSION.

SIR.—Mr. Morley's report, and the evidence on the explosion in the Trencherbone Mine in this colliery, seem to point out some curious features in the ventilation. It seems that the Trencherbone Mine is 6 ft. thick, with a good roof and floor, and it was worked by the longwall method, the depth from the surface being 534 yards. It was not the ordinary longwall working, where the face is carried outwards, and roads driven through the goaf, but narrow drifts were driven about 150 yards apart to the boundary, and then the stalls were broken off these narrow drifts, and driven to the rise. The men were thus working between the shaft and the goaf, with no attempt to stow up the goaf from which the coal had been taken, except to build pack-walls. It resembled, in fact, the working off of pillars, leaving the goaf behind. It will doubtless astonish North Countrymen to learn that the miners worked in this "broken" with naked lights. Another curious custom was that the miners commenced work in the morning with safety-lamps, but were afterwards supplied with naked lights, and continued to work with them during the day. Most people will wonder, not that an explosion did happen, but that it did not happen long ago. It seems that in October last an anonymous complaint was made to Mr. Dickinson, the Inspector, strongly complaining of the ventilation of this mine. He sent Mr. Martin his assistant, who made an examination, and he seems to have thought that it was "an exaggerated and spiteful report of the case," a small quantity of gas being found in one bay for a few days, while the air communication was cut off. He found all places well ventilated, naked lights in all, and no trace of gas. The assistant referred to Derricott's place in the east level, which the manager seemed to suspect was the place pointed out by the anonymous letter. It was in this level, and near this place that the explosion is supposed to have occurred in June last.

It is worth noting that the old story is trumped up that the light given by safety-lamps is not sufficient to allow the roof to be properly looked after. The small death rate in Durham, where safety-lamps are in almost universal use, proves the fallacy of this argument. The disaster presents to some extent an exceptional state of things. According to the evidence no penuriousness (as might have been found accompanying the depressed state of the coal trade) contributed to it. The owners supplied everything that was required. Nearly every man who had any share in the occurrence lost his life. The manager was at his post of duty. The overman and many of the firemen lost their lives. Notwithstanding what occurred, of all who knew the mine but one or two seemed at all apprehensive of what might ensue. The Inspector and his assistant had frequently visited the mine. The Inspector was never more surprised than when he received notice of the explosion. The owners are severe sufferers by the wreck of the property and the expense and delay of the restoration. All are required to join heartily to prevent the recurrence of such a disaster. Anything that might interfere with this should in our opinion be carefully avoided, but if there be still reason to suppose that such an issue of gas came out

of this goof it affords another strong reason why such a system of working as was here pursued should not be followed. The system is fit only where the issues of gas are not large, and there is ample surplus ventilation, and those acting in the management and the miners are thoroughly trained to the requirements it entails. Unless warning be taken from what has happened at Clifton Hall, and proper attention be given with regard to discipline and the use of lights and powder, the present explosion may it is to be feared be only the first of a series of similar catastrophes.

MINER.

NEW TERRAS MINE.

SIR.—I have read in the *Mining Journal* of the late annual meeting of the New Terras Mining Company with some degree of pleasure, because I wish them the success which they deserve, and are likely soon to realize. I know from frequent observation of the progress of the works that the manager has done all that he could do under the circumstances in which he stood financially. The money as it came in from the calls has been economically expended, and now that further capital is to be raised on the issue of 3000 of the unissued shares, all the appliances for raising, stamping, and dressing of the tin ore will be completed with all possible expedition. Two or three of the largest shareholders I find have offered to take all the 3000 shares, or so much of them as their co-adventurers may decline to take up. The 2500£, remaining due on the shares already allotted is to be kept in reserve to meet contingencies to prevent the possibility of a financial calamity, such as has happened to many limited companies by the action of creditors or "wreckers." With a view to expedition and economy, the manager has advertised for tenders for the erection of 100 heads of stamps, the sinking of the engine-shaft 30 fms., and other works. The surface erections and arrangements exhibit considerable engineering and skill in the manager, and justify the naming of New Terras as "The Model Mine." I am told that the number of present shareholders is about 120; five or six died within the last two years.—*St. Stephens, November 4. OBSERVER.*

MINING ROYALTIES.

SIR.—My attention has been called to a speech reported in your issue of 24th ultimo, in which Sir Theodore Martin, Chairman of the Minera Company, at a political meeting held there, explains very lucidly how the Spanish lead mines can compete so successfully with those in this country; but there is one most important item that should also have been explained—it is, that there are no royalties charged on the produce of the mines, and the only tax on either the ore or lead is an export duty of 1 per cent. If our home mines were held on the same favourable terms, I doubt if the competition would be so keenly felt, and that the heavy royalties charged on the mines that are now closed, to many of them meant the difference between profit and loss.

Professor Sheldon, one of the Parliamentary candidates for the Ormskirk Division, Lancashire, in a recent speech, makes a strong point of this royalty question, and he states that if he is returned he will support a measure to appoint a Royal Commission to enquire into it. It is to be hoped that others may be found in the next Parliament—either Conservative or Liberal—who will support this measure, for it is a question that means either weal or woe to thousands dependent on our mining industries, and the various branches of trade depending thereon.

H. R. LEWIS.

Bartholomew House, Bartholomew-lane, London, November 6.

THE GOLD AND DIAMOND FIELDS OF SOUTH AFRICA.

SIR.—In your last issue there appeared an article under the above heading from the pen of Mr. Thomas Collingwood Kitto. Mr. Kitto commences his article by stating:—"The Lisbon-Berlyn is a property in which it is necessary to have an enormous amount of faith." He adds:—"People can easily be wise after the event, but this cannot be laid at my door, because it is well known that from the very outset I have never lost an opportunity of cautioning English investors against having anything to do with the *ignis fatuus* like gold fields of the Transvaal." I propose replying to Mr. Kitto's eccentric strictures by quotations from his own letters to Messrs. Howe and Cope.

On the 31st October, 1881, he writes to those gentlemen: "If you can manage to buy Rotunda Creek Farm of Mr. Owen at a song on some 'shamtry' pretence or other I will pay you a splendid commission." And, on the 5th of the following month, he writes to the same gentlemen: "I hope you have the Big Reef properly secured to us. If not you must secure it at once. Anything you do for T. C. Kitto and B. Hampson you will be well paid for." On the 5th December following he writes: "I believe more in Waterfall than any other place, and if I can have proper assistance I shall form a powerful company in England." Later on he writes: "Now the Big Reef is secure I am satisfied perfectly. It only requires to go down on that to make it a grand success. The richest gold mines in the world have not got larger leaders. I know the ground to be the richest on the place with the exception of Davis's."

For the information of those of your readers who may not be cognisant of the fact, I should perhaps state that all the farms and reefs mentioned by Mr. Kitto in the above quotations, together with Mr. Davis's property, form part of the Lisbon-Berlyn property. Again, on December 31 of the same year, we find Mr. Kitto, who was moving heaven and earth to form a company in England for the working of a portion of the Lisbon-Berlyn property, writing to his friend Cope:—"Stick out for the shares, because as soon as I have the thing properly in my hands the company's shares will double, or even treble, in price as soon as stamping commences." And this from a gentleman who last week had the audacity to say in his article:—"The Lisbon-Berlyn is a property in which it is necessary to have an enormous amount of faith of the kind which transforms infinitesimal seams into enormous gold reefs, and a thin bilious coating of earth into many miles of gigantic gold placers."

The audacity of your contributor is truly astounding, for a few lines further on in his article of last week he goes on to say:—"The board of directors of the Lisbon-Berlyn, in order to procure the best manager possible, applied to Prof. Thomas Price, of San Francisco, for a competent man." He continues:—"Prof. Price is the greatest living authority on gold and silver mining, and with a reputation unsurpassed. There is no doubt but what he sent the very best man that could be got." Mr. Kitto knew when writing this, that this "very best man that could be got," Mr. Crittenden, reported upon his arrival upon the property that in his opinion the alluvial gold extended over an area of 500 acres; and the future yield he estimated as worth from 300,000£ to 450,000£, and the fissure veins were to yield 1 oz. per ton.

How does Mr. Kitto make his statement of "infinitesimal seams," and "a thin bilious coating of earth," coincide with this report of one, whom he acknowledges to be "the best man that could be got," and with his own desperate and frantic efforts to secure the property and oust myself. If it be necessary to add anything further, I will content myself with quoting from a letter dated the 9th October, 1882, of Mr. B. Hampson, Mr. Kitto's partner, the holder at that date of considerably less than one-thousandth part of the present Lisbon-Berlyn property. He says:—"We have always considered our property worth 60,000£." I will conclude these really sad and painful quotations, when placed side by side with Mr. Kitto's article of last week, with one which demonstrates only too plainly the almost superhuman and frantic efforts that were made by him to obtain possession of the property, and to oust myself. In writing to Mr. Cope on the 24th April, 1882, he says:—"I hope you will all agitate so that Owen does not get his concession ratified. He will not so long as you all move together."

I will say no more that I may spare your readers and Mr. Kitto from the pain of reading any more of such and stultifying (to use the least harsh term I can) statements. But, in the interest of the public, in the interest of truth and justice, and, above all, in the interest of Mr. Thomas Collingwood Kitto himself, I would ask—Has no friends?

H. GWINNE OWEN.

110, Cannon-street, November 6.

FAILURE OF THE MAGDALA MINING COMPANY.

The failure of the Magdal Company at Stawell, after a continuous struggle extending over a period of 18 years, is an event in the mining history of the colony that has caused universal regret not only for the unsuccessful termination to one of the most notable instances of indomitable perseverance and enterprise in this colony in connection with the search for gold, but that it again affords sceptics the opportunity of putting forth theories of the non-existence of payable quartz at very deep levels. If any body of shareholders ever deserved a successful issue it was those who through good and evil report placed faith in this venture, and never once abandoned hope until failure was inevitable. As far back as 1867 the ground was taken up and worked continuously. About that time the rich gold obtained in the private claims adjoining, and at a more subsequent period the fabulous returns from the Pleasant Creek, Cross Reef, and other mines induced a number of Ballarat speculators to join with a few at Stawell, the Magdal Company was floated; and the announcement made by the Chairman of the directors, Mr. F. M. Claxton, that the pluck of Lord Napier at Magdal in storming the heights would be imitated by the company in the search for gold, had been carried out to the letter. The stone from the adjoining mine appeared to make direct for and through the Magdal ground. The reef was flat and wonderfully rich. The Magdal shaft was carried down to 800 ft., and the stone tested, without payable result. Once the hopes of shareholders were raised, and the value of the stock rose in the market to over 8£. per share, so much faith was placed in the future of the mine that the majority of shareholders refused to sell, and many of them held their scrip to the last. Calls were frequent and heavy, and notwithstanding that the proprietors of the mine were scattered over Australasia, and some even held in England and on the Continent, the contributions were paid whenever demanded. One shareholder in New South Wales has paid over 10,000£. in calls to this mine, and even now has faith that a payable lode exists in the neighbourhood. As nothing of a payable nature could be discovered at this level, another was opened out at 1200 ft., with similar result and a third at 1600 ft. The shaft was sunk to a depth of 2500 ft., and from the bottom of this a bore was put down 600 ft. through hard slatey country, making a total depth of 3100 ft. A few strings of quartz were passed through by the drill, but at no point was there the sign of a reef. Operations were then directed to the 1200 ft. and 1600 ft. levels. A diamond drill was obtained, and a bore put in at the first-named depth to the east, and a vertical lode was discovered, showing a fair prospect of gold. It improved as it was driven upon, and a rise was started to endeavour to discover the direction of the flat lode that was supposed to pass through the claim. This vertical lode was followed up to the boundary of the Moonlight Company's ground, but without any encouraging return. The latter company offered the Magdal directors that portion of their mine adjoining, in order that the lode should be further traced, but the hope, so long deferred, of a payable discovery was reluctantly abandoned, and the shareholders decided to disband. That they were unwilling to give up while hope lingered is shown by the voting, the ultimate decision only being carried by a small majority.

The plant of the company was one of the largest and most complete in the colony. The winding gear was specially made, and the ropes, which were of the best manufactured steel, were 3000 ft. in length. The heaviest water in the mine was at the 800 ft. level, but even here 7 in. pumps were large enough to keep it down. At the lower levels a few hours' bailing a week was sufficient. The lode worked crush about 5 dwt. to the ton, and one small leader revived the hopes of the holders by yielding 2 ozs. to the ton, but less than a dozen saw the thread, for it was no more—worked out. Notwithstanding the great depth of the shaft, the air was good, except at the 1600 ft. level. In some parts of this drive gas was emitted from fissures in the rock, which burnt in a strong bluish flame when brought into contact with a light, but notwithstanding its constant extrusion, it was non-explosive. The company was twice reformed after the original floating. The first consisted of 3200 share at 5£. each, the second of 6400 of 10£. each and the last of 12,200 at 5£. each, 3£. of which was paid up. The total amount expended since the formation of the company to the present date is 130,000£., and the dividends nil.—*Melbourne Argus.*

THE GREAT WESTERN ENGINE WORKS,

WOLVERHAMPTON.

Mr. T. Simpson, the manager for 18 years past of the Stafford Road Locomotive Works, Wolverhampton, of the Great Western Railway Company, has just been promoted to the principal works of the company at Swindon. A large gathering of officials and workmen connected with the Wolverhampton establishment took place in the institute attached to the works, on Saturday, to witness the presentation to Mr. Simpson of a silver tea and coffee service and other articles which had been subscribed for to testify to the esteem in which Mr. Simpson was held by the operatives. Mr. Joseph Armstrong, the present manager, who has recently come from Swindon, occupied the chair. Mr. P. Mitchell said that Mr. Simpson need have no hesitation in accepting the gift, for it had been subscribed for spontaneously. Mr. Simpson said it was most gratifying to receive such an indication from the men and the good feeling that had existed between himself and them. He commenced his work at Stafford Road 34 years ago. They knew how safe they formerly were in the hands of Mr. George Armstrong, now the superintendent of the Northern division, and they would be equally safe with Mr. Joseph Armstrong. (Applause.) It was not right, if they wanted to improve things, to touch the men's pockets; at the same time, if any means could be devised to cheapen labour, let them do it, but let the men share in the profit as well as the company. (Applause.) Taking things all round, he did not think that there was any engine-shop in the country where they could get work done more cheaply than they did there. (Applause.) Subsequently Mr. Simpson was entertained at dinner, when Mr. Joseph Armstrong presided. Mr. Charles Crump, in proposing "Success to the Great Western Company," alluded to the great progress the company had made in the last half century, the capital having increased from 2,500,000£. to 90,000,000£., and the mileage from 144 to 2450. He attributed this success to the ability of the men at the head of it, mentioning Sir Daniel Gooch, Mr. Grierson, and Mr. Dean in connection with the general concern, and Mr. Joseph Armstrong, father of the present Chairman, Mr. Simpson with the local works. When Mr. Simpson's health had been drunk, the Chairman, in responding to the toast of his own health, assured the men that he would endeavour to follow in the steps of his predecessor—(applause)—and he trusted he would have the assistance of the men in doing so. (Hear, hear.) As to technical education, he should be glad to do all he could to promote it by means of lectures at the institute.

MINERS' WAGES.—On Monday a largely attended conference of Union and non-Union delegates from the leading collieries in Yorkshire, assembled at Barnsley, and, after considerable discussion, recommended, at the request of fully 20,000 miners, an advance to be enforced. It was resolved that the officials be empowered to demand 15 per cent. advance, and abide by whatever resolutions are carried at the Manchester conference. Mr. Pickard was instructed to write to the secretary of the West Yorkshire Colliery Owners' Association, requesting an early interview. The conference resolved that no colliery-owner, wishing to make arrangements for an advance, should do so unless on re-arranged prices, payable until May next.

During the hours between Sunday and Monday morning the bottom of one of the blast furnaces in the cast-house of the Dowlais Ironworks burst, and the contents rolled into a culvert beneath, which was filled with water. The culvert runs into one of the blast engine houses. The result was that a great explosion occurred, the floor of the house being blown up. The whole building was soon on fire, and it continued to burn until Monday afternoon. The damage is estimated at considerably more than 1000£. Fortunately there was no men working in the engine house at the time of the explosion.

THE DISCOVERY OF CALIFORNIAN GOLD.

ADDRESS DELIVERED BEFORE THE SOCIETY OF CALIFORNIA PIONEERS, SAN FRANCISCO, SEPTEMBER 9,

BY JOHN S. HITTELL.

(Continued from Page 1226.)

The opening of the mines proved disastrous to Sutter and Marshall, and was a subject of lamentation to both of them. The former did not know how to use his magnificent opportunity to make multitudinous millions. His land grant at Sacramento, through which all the travel and trade of the mines passed, and his possession of the only stores there, his extensive acquaintance and his credit, gave him immense advantages over all competitors in the race for wealth; but he was not the man to make the best of them. He was careless, extravagant, and confiding. He never thoroughly studied or diligently watched the details of any branch of his business. He gave his orders in vague language, and did not enquire whether they were clearly understood or promptly obeyed. His servants were employed without discrimination, and were not discharged when found remiss. Instead of employing one agent to sell his land at Sacramento, he had many, and some of them had instructions so injudicious that they were enabled to defraud him out of large sums. He trusted strangers readily, and gave away much foolishly in the name of charity. So late as the fall of 1850, when employment could readily be obtained at high wages, a man representing himself to be a newly arrived and penniless immigrant could buy provisions, tools, and clothing from Sutter without security, and in many, perhaps most cases, the promissory note of the unknown purchaser was the only payment ever made.

The reports of the immense sums obtained by the miners induced Sutter to leave his store, and go with a party of Indians to Weaver Creek, and thence to Sutter Creek; but this venture was doubly unprofitable, for he spent much, he got little gold, and his important interests at home were neglected. His flour-mill at Brighton was never completed, and all the money invested in it was totally lost to him. His injudicious sales, the frauds of his agents, the expenses incurred in resisting squatters, and the litigation to defend his title left little profit to him from his land; and a few years after the gold discovery he retired from business to a farm in Sutter county, a disengaged man never ceasing to lament the gold discovery, which had deprived him of his dependents, his business, his land, his wealth, and his position as prince of the Sacramento valley. In consideration of his poverty and of his liberal aid to the American immigrants from 1843 to 1850, the Californian Legislatures of 1861, 1870, and 1874 gave him a pension of \$3000 a year for nine years, and would, perhaps, have continued it till the end of his life if he had not left the State in the vain hope of obtaining compensation from Congress for the wrongs done to him under the Congressional laws relative to Mexican land grants. For a time Marshall seemed to be on the high road to fortune. His mill began to run in April, and although its operations were irregular at first, after a few months there was a steady demand for its lumber at \$500. per 1000 feet, or 20-fold more than he had expected to receive. Many of the people in the mines and all the traders at New Helvetia, in the summer and fall of 1848, came to his mill, as the only one in the Sacramento basin, for sawn material of their houses, barns, and fences. He continued to prosper until the spring of 1849, when a party of Oregonians killed—Marshall said murdered—three aborigines near Coloma, and in retaliation five of their number were slain by the red men. The surviving Oregonians collected a mob, and massacred all the Indians they could catch, including those employed at the saw-mill, though they had nothing to do with the previous trouble, and having come from the valley were not of the same tribe with the mountain Indians. Marshall tried to save his red dependents, but the mob, not contented with exterminating them, threatened him, and he was thankful to a friend who provided a horse for his escape. On another occasion Marshall was driven from Coloma by a mob, and he said that his only offence was that he refused to tell them where they could find good diggings. When he went out prospecting he was watched as if he knew some wonderfully rich places, and on one occasion a multitude followed him, and when he stopped they threatened him with hanging if he held his knowledge from them. They were so furious that he fled on horseback, and remained away six months. When he returned he found his tools, his horses, and his oxen had been stolen, his mill had gone to ruin, his title to his land about the mill was denied, a town had been laid out, and the lumbering business was at an end there for him. Sutter and he had paid the Coloma Indians for their land, and Marshall believed that under the American pre-emption law he was entitled to 160 acres of land, including all the valley in which the mill was situated, with its gold. The first miners did not dispute Marshall's title, and some of them paid for the privilege of washing gold on his land; but it was not long before lawyers came and explained that the pre-emption laws had not yet extended to California, and would probably never be applied to rich mining ground. Marshall was too obstinate to listen considerably to the other side, and he was too ignorant to fully understand that there was no legal basis to his claim; and he firmly believed to the end of his life that great injustice had been done to him by the refusal of the authorities to drive off the trespassers. He could have obtained profitable employment as a carpenter, but he hoped for a sudden fortune at mining; and when he had a claim in which he could make an ounce a day he soon left it in the hope of finding one much richer, and thus wasted much of his time in prospecting. Though moderate in his wants and economical in his habits he never accumulated much money. His friends were few and poor like himself, so he could not engage in the large enterprises of fluming rivers or washing down deep gravel deposits in the hills. If he stuck long to a claim it proved at last to be poor, while others above and below struck it rich. And he complained that if his labour promised to be remunerative he was driven away by ruffians and that this happened more than 50 times, but perhaps this was because presuming upon his imaginary pre-emption claim, he undertook to hold more ground than he was entitled to under the local customs.

Having made several statements discreditable to the mines at Coloma in 1849, on the authority of Marshall, it is only fair that I should add that, within the limits of my own observation on the overland route and in the mines, the pioneers of that year were the most orderly and peaceful men I ever saw, and I have lived in quiet towns in Pennsylvania and Ohio. The 25,000 adventurers who crossed the continent by way of the Platte and Humboldt valleys in 1849 nearly all started as soon as the grass furnished food for cattle, and all followed one narrow road. A 1000 might sometimes be collected at a good camping place, and on the march we were continually making acquaintances. Some companies that were at first in front fell behind because they did not know how to manage their oxen; others with strong teams advanced from the rear to the front. The train to which I belonged kept a position near the middle all the way across, so that I had a good opportunity to see and speak with the emigrants. Their superior character was a subject of common remark and congratulation. All were agreed that no country had ever received a more desirable class of settlers. Many were well educated, and, though young, most of them had made a successful start in business. They were orderly, peaceful, and well behaved. No case of drunkenness, gambling, or fighting was reported in our vicinity between the Missouri and the Sacramento rivers, and I heard of only one homicide, which occurred many miles away. I must admit that there was much profanity, but that in an ox teamster is an allotrope of piety, and we all had to take our turns in driving. We were somewhat surprised, however, when the Indians repeating the first words which they heard, and supposing them to be the ordinary salutations, would come up, hold out their hands and shout, "How d'y'e do, Wo haw, d——you!" sometimes adding a few words of similar import to show greater proficiency in politeness. The men at Clear Creek, now Horsetown, near Shasta, where I spent the winter of 1849-50, had nearly all crossed the Continent in the previous summer; and in the mines, as on the road, their conduct was admirable. There was no homicide, no fighting, no quarrelling about claims, no gambling, no idling, very little intoxication, and no place within 10 miles where strong liquor could be bought. Though gold dust was abundant, and was often seen lying about unguarded

within mid-winter driven his part the posse venture abandoned doubt or intimates to injure As to the or from direct a stances at the associate thos corrobora the min address who was filled with constitu land ne kitchen to yield things a hope, ac 1 miles days. wrote M of hast inducing of \$1200 reward died in Janus gold dis To it can progress the wes Cascade with her the a Nevada, Brita the high across the only a f ful stin freedom rapid ad The o awarded or prejud It were a h Sitter su Resides, shrie friend Marshal was rou manners. S affected influence to assert have be built having a cal skill and Sotough enough to fit him for the tracte a common days but not to character was pur route for finding quire malleable its value separated benefit with the engine n entitle Mores, w success fastness in confide Did his to him favours human has give noted l held fr shown a ally spo In his b January secon such a imagina ently en a letter like He used I feel like sale of modi all the man 45 country is some glass, a In Octo stead th

Within sight of passing strangers, no thefts were reported until after mid-winter, and then but few. Marshall's assertion that he was driven from his claims more than 50 times by men whose only motive was robbery suggests a suspicion of exaggeration, or of some fault on his part. The miners were always ready to defend a neighbour in the possession of his claim, held under the local customs and regularly worked, and this was so well understood that no trespassers would venture upon a claim unless he could make out a plausible case of abandonment or violation of custom. It is not my desire to throw doubt on Marshall's honesty. That was never questioned among his intimate acquaintances, so far as I have heard. He had no desire to injure his neighbours, and was good and kind in all his impulses. As to the character of the men of 1849, I speak not from hearsay, or from the hasty presumptions of a day or two, but from a year's direct and intimate observation of men thrown into new circumstances, exposed to many dangers, privations, and temptations, and at the same time left without the wholesome checks of family, old associations, and well established legal machinery. Hundreds if not thousands of the overland pioneers of 1849, still surviving, can corroborate my statement as to the character of that migration. Of the miners of Clear Creek of the winter of 1849-50, the only one whose address is known to me is the Hon. Alexander Anderson, of Shasta, who was a member of the Second Constitutional Convention, and has filled other public offices with credit to himself and benefit to his constituents. Marshall, to whom I must now return, took up some land near Coloma, for agricultural purposes, about 1856, and planted kitchen vegetables, fruit trees, and vines, which promised at one time to yield him a comfortable support, but the increasing supply of such things and the decrease of population in the mines deprived him of this hope, and mining again became his reliance. He moved to Kelsey, 4 miles from Coloma, and there he made his home till the end of his days. In 1870 George F. Parsons, an able journalist of Sacramento, wrote Marshall's biography, and the work, though bearing the marks of hasty composition, is very readable. It had much influence in inducing the Legislatures of 1874 and 1876 to give an annual pension of \$1200 to Marshall for four years, making a total of \$4800, the only reward which he ever received from the public for his discovery. He died as he had lived, in poverty. Of the men who were at Coloma in January, 1849, not one became noted for wealth. The Californian gold discovery is one of the most prominent events of recent times. To it can be traced many of the most beneficial features of recent progress. The migration of a 1,000,000 people from the eastern to the western side of the Continent; the rise of large and highly civilised communities at the occidental base of the Sierra Nevada and Cascade mountains; the development of the wealth of California, with her cities, vineyards, orchards, factories, and roads; the opening of the auriferous and argentiferous deposits of Australia, New Zealand, Nevada, Utah, Colorado, Montana, Arizona, Oregon, Idaho, and British Columbia; the construction of half a dozen railways connecting the two great oceans; the establishment of several steamer lines across the Pacific, and Japan's welcome to European intercourse, are only a few of its results. Industry and commerce first felt its powerful stimulus, and these reacted on popular education, political freedom, literature, science, and art, all of which, have made more rapid advances within the last 35 years than ever before, and largely because of the impetus started upon the bank of the American river.

The chief credit for the Californian gold discovery has been awarded by some writers to Sutter, through the influence of mistake or prejudice. They had heard the Coloma mill spoken of as though it were Sutter's exclusive property. They supposed that Marshall was a hired servant, who furnished only his manual labour, while Sutter supplied the brains for the management, as well as the money. Besides, Sutter was a man whose munificent charities had placed the whole State under obligations to him; a man of family, of extensive friendship, of genial companionship, and of polished manner. Marshall, on the other hand, had no family and few friends. He was rough in his mode of life, careless in his dress, often surly in his manners, and frequently querulous or extravagant in his conversation. Such comparisons of the two persons most prominently connected with the discovery, though they were not entitled to the least influence upon the question of the gold discovery, led many persons to assert that the chief credit belonged to Sutter. The mill should have been called by Marshall's name. He selected the site for it, he built it, he was its sole manager, owning half the building, and having a superior claim to all the land. His industry and mechanical skill had a larger share in the enterprise than Sutter's money, and Sutter contributed nothing but money. He did not have energy enough to examine the place and form his own judgment about its fitness until the structure was nearly completed. Marshall had not only selected the mill site well, laid out the line of the race, and superintended all the work, but he was the first to see the gold, to pick it up, to subject it to a test, and to recognise its value. The chief, if not the exclusive credit of the discovery belongs to him. To him more than to any other man, our State is indebted more for the opening of those auriferous deposits which attracted to it a large population, and suddenly gave it a secure and respectable position among the most highly civilised communities of our time. An assertion printed in the *Alta California* of August 18, that Wilfred Hudson found gold in the race, several days before Marshall saw it, is disproved by many evidences, the most conclusive of which is the fact that we have a list of all the persons at the mill at the time of the discovery, and Hudson's name is not there. The credit belonging to Marshall is not of a high character. Though the results were marvellously great, the strike was purely accidental. When selecting the site for the mill and race for the race, he did not take into account the possibility of finding gold. When the metal was exposed to view he did not require much capacity to suspect its nature and to try whether it was malleable. He did not know enough to make a conclusive test of its value to find the extent of the deposit by prospecting, or to separate the gold from the gravel by washing. In the vastness and beneficence of its immediate consequences, his find may be compared with the discovery of America, and the inventions of the steam-engine and the telegraphic alphabet, but his name will never be entitled to such honour in history as those of Columbus, Watt, and Morse, who began their labours with grand purposes, and achieved success by means of learning, combined with rare foresight, steadiness of purpose, long toil, and severe sacrifices, patiently borne in confident anticipation of commensurate reward. Their triumphs were achieved by calculation, and Marshall's came by chance. Did his luck place the community under great obligation to him? I think not. The sense of gratitude for favours conferred unintentionally is not strong in the average human mind. I do not recall a case in which a government has given a large pension or fortune for accidental service. The noted liberality of California, however, would not have been withheld from Marshall upon any technicality about luck, if he had shown a disposition to receive favours gracefully. But he habitually spoke and acted as if he considered the world hostile to him. In his biography we are told that "the history of his life," after January, 1849, is "a record of a series of outrages," including "persecution, robbery, abuse, slander, and injustice of the basest kind." Such a complaint must have had most of its basis in a diseased imagination. The people of Coloma and of El Dorado county generally entertained very kindly feelings towards him, and regretted that he made himself so unhappy. His bitter feeling was shown in a letter refusing the request of *Hutchings' Magazine* in 1857 to allow his likeness to be used in illustrating an article on the gold discovery. He used these words—"I feel it a duty I owe to myself to retain my likeness, as it is, in fact, all I have that I can call my own, and I feel like any other poor wretch; I want something for myself. The use of it may yet keep me from starving, or it may buy me a dose of medicine in sickness, or pay for the funeral of a dog, and such is all I expect, judging by former kindness." This is from a man 45 years of age, strong, healthy, and without a family, in a country where he could easily earn \$5 a day by his labour. There is some truth in Thackeray's statement, that "the world is a looking-glass, and gives back to every man the reflection of his own face." In October, 1848, he asserted that he had information of the existence of a large organised band of robbers at Coloma, that he understood their signals and knew several of the leaders, but when urged

to give his information to the public, so that the offenders could be punished, he refused, on the ground that the criminals were too formidable, and the only result of his exposure would be that he would lose his life.

Soon afterwards, while in San Francisco, he discovered the plan of an organised band of robbers to burn and sack the city, and learned "their grips, passwords, and countersigns." He spoke to a friend of the proposed crime, but refused to go before the constituted authorities for fear they were in league with the criminals. We could believe one story of this kind, but two so near alike and so close together strain our credulity. Parsons admit the existence of a rumour that Marshall was insane, and in 1848 Major Reading thought his mind was unsound, an opinion evidently shared by Kemble. According to an opinion common among his neighbours he was a crank. Notwithstanding his ill temper and his mental weaknesses, the Californians would probably have provided for him well if any comprehensive and judicious statement of his claims had ever been presented to the Legislature, but no such presentation was made. The citizens of the county where he resided never instructed their representatives to demand relief for him, nor did any Governor of the State plead his cause in an official document. While his treatment of the Government seems excusable, if not just, the people of the State will presumably regret to remote time that it was not more magnanimous. Expressions of such regret can avail nothing now to him, but they might be followed by giving some appropriate resting place and monument to his remains. Many mistakes greater than the neglect of Marshall may be found in the history of California, and in this country, as in every other, the partial or malignant artist who depicts only the foul and overlooks the fair can paint a very black picture, and truthfully assert every separate feature in it is true to life. The spoliation of the holders of Mexican land grants, the refusal to give permanent homes to the early settlers in the Sierra Nevada, the delay and chicanery in the administration of civil and criminal justice, the demagogism of the officials, and the embezzlements and frauds in the executive department, have been in some respects unequalled in any other highly civilised community. But the canvas on which these dark spots appear is bright in general colour. If we add together the number of inhabitants in California in 1850, 1860, 1870, and 1880, as ascertained by the census, and divide by four, we obtain 475,000 as the average population of the State for the last 35 years. No other people, within the same period after obtaining possession of a new and strange country, have done more in proportion to number to discover and develop its resources, or accomplish greater marvels in changing the face of Nature. Within half a lifetime they have done more road-grading within the narrow limits of their territory than the Romans did in their entire empire in 10 centuries, and Gibbon regarded the Romans as the most remarkable road-builders the world had ever seen. They have carried rivers over the hills and have dumped mountain-tops into the valleys. They made their country as the *Westminster Review* truthfully remarked, first the treasury and then the garden of the world. "But," says a Briton, reproachfully, "California has no traditions." A creditable tradition is not an appurtenance of real estate; it is personal property. It attaches itself to the man and not to the land. The Californians have inherited the history as well as the blood of their ancestors. Every great deed, every intellectual triumph of Europe or the United States belongs in part to them. A drop of Anglo-Saxon blood in California has just as much title in Runnymede as has any drop of blood in England. Whatever there is of inheritable honour or sacredness in the records of the Teutonic, the Latin, the Celtic, or the Jewish blood, belongs to our population; but we have repudiated some discreditable traditions of our ancestors. Among us no title descends from parent to child. We do not attach the social rank of gentlemen exclusively to men who live in idleness. We make no boast of belonging to families which, under the detestable systems of primogeniture and entail, have been enabled to plunder a multitude of dependents for half-a-dozen centuries. More than any other nation we are opposed to the perpetuation of large estates, to every law that can obstruct the career of superior capacity, to every influence that tends to divide the community into hereditary strata, to every custom that demands cringing servility from the poor and patronising insolence from the rich, and that requires everybody, instead of treating all honest people with equal politeness, to graduate manners to their precise position in one of eight or ten grades of social rank. We take pride in the fact that many of our most successful American statesmen commenced life without money or influential friends; and we take still more pride in that more significant fact that their talents were accompanied by such nobility of character that they stand among the most admirable figures of history. The main honour of a generation consists, however, not so much in the traditions which it receives from its forefathers, as in those which it leaves to later times. California can look that principe square in the face. The brilliant and influential part which it has played on the stage of the world for the last 40 years is an honour to its citizens, and leaves a creditable tradition to future times.

And yet, if we should regard only such associations and traditions as are of local character, though we have none of ancient date, such as we have, are extremely interesting. Our history, though brief, is full of wonder. Indeed, it is a common expression with pioneers of 1849 that here, within 36 years, they have witnessed a greater number of exciting events of a peaceful character than have been seen elsewhere in a century. Their experience has been so different from anything told in the records of other countries that they sometimes feel disposed to doubt whether the facts of their memory are not fictions of the imagination. They saw the time when California was almost a desert; when wild Indians were a majority of the inhabitants of the Sacramento valley; when most Californians and San Franciscans lived in tents; when John B. Weller stood up in the National Senate and said that his State had no agricultural resources worthy of note; when for lack of coin gold-dust was common currency, and every merchant had scales for weighing it; when, later, the coin most in use for large payments was the octagonal slug worth \$50; when not 15 years since the dime was the smallest coin in common use; when the introduction of the half dime and the 5 cent nickel—now our smallest coins—were regarded by the poor generally as hateful evidences of an approaching era of low wages and small profits; when there were not 10 acres of level ground in this city east of Larkin and Ninth-streets; when ships anchored east of Sansome-street between California and Pacific; when wild ducks were frequently killed in a pond on Third-street between Market and Mission; when the only road from Portsmouth-square to the Mission, passable for loaded wagons, had a toll-gate on Kearny-street near Sutter; when most of the merchandise in the city was stored in dismantled ships at anchor in the bay; when gold mining gave employment, directly and indirectly, to four-fifths of the men in the State; when the leading branch of agriculture was the breeding of beef; when the California Steam Navigation Company and the California Stage Company carried most of the inland travel; when business was thrown into confusion by the decline of the gold yield; when the city and State were threatened with abandonment on account of the supposititious discovery of very rich and very extensive placers in the basin of the Fraser river; and when the people were astonished and delighted by the opening of speedier and cheaper channels of communication with the Eastern States, and by the development of numerous branches of mining, agricultural, and manufacturing industry. We who can look back over such memories can never say that life here has been dull and unromantic. The promptness with which the gold discovery followed the American occupation was an indication of the marvellous energy that was to mark all the steps in the growth of our State. The treaty of peace between the United States and Mexico was not signed until February 2, 1848, and the ratification, which finally determined the allegiance of California, did not occur until May 30th. The Americans had scarcely obtained undisputed possession of the country before they threatened to swamp the markets of the world with their gold, and then in rapid succession they poured out immense quantities of quicksilver, wheat, wool, fresh fruit, canned fruit, silver, and borax. They competed with Lucca in the quality of olive oil, with Malaga in raisins, and with Agen in prunes, and are hoping to surpass Smyrna in figs, and France in wines. No pre-

invention, but older date and of world-wide fame, is the cable tramway of A. S. Hallidie. It has been introduced into Chicago, Philadelphia, New York, London, and other cities, and has made an epoch in the transportation of passengers. It has also been the mother of a multitude of supplementary inventions covered by 300 patents or more, relating to cable crossings, turning corners, grips, brakes, and cable tubes. By a combination of cylinders and stops, Edward T. Steen adapted the hydraulic press to the raising of large and heavy buildings, the level of which was preserved, no matter what the inequalities of weight in different ends or sides. The best system of blasting rocks under water, accessible by shafts or tunnels, was devised by A. W. Von Schmidt, and first applied by him at the Hunters' Point dry dock and Blossom Rock, in this city, though afterward used at New York without due credit to him. The first series of connected timepieces, driven from a central source of power, with trustworthy regularity, were the pneumatic clocks of Hermann J. Wenzel, copied in Europe, but the copyists took the honour of the invention to themselves. One of the most important improvements of our half century in the sawing of lumber, has been the adjustable saw-tooth, first invented by N. W. Spaulding, and afterwards modified and improved in many ways. It materially increased the efficiency of saw-mills and diminished their expense. The head block for feeding the logs to the saws, the gang joist machine and the gang lath machine of J. A. Robb, have come into extensive use. By combining a circular saw working from below with another cutting from below, and a third from the side, D. Evans manages to convert a log 11 ft. through into lumber, though neither saw can make a kerf more than 3 ft. deep. The immense trees of our State—and logs 18 ft. in diameter are handled here in the ordinary course of the lumbering business—required novel machinery for handling the logs, and John Dolbeer's steam logger moves them to the water or to the car used in transporting them to the mill. G. W. Swan's wood slicing machine cuts logs into sheets more expeditiously and with less waste of material than the saw. The telephone was a wonderful product of human ingenuity, but it had little influence in business until G. S. Ladd, in this city, connected the separate telephone lines in an exchange; and after the lapse of nine years the American people have more capital invested in telephone exchanges than in telegraph lines after 40 years. Mr. Ladd is also the inventor of the improved messenger box in common use, and with Stephen Field of the double electric machine, which rendered mechanical electricity available for ordinary telegraphic purposes.

Byron Jackson's horse-fork, portable derrick, and thresher-feeder have much reduced the expenses of harvesting grain in California; and the first successful straw-burning engine was that of H. W. Rice. This hasty summary of the leading inventions of California omits much, explains nothing fully, and is far from doing justice to the industrial genius of our State, but, unsatisfactory as it is, I challenge every other American State, even the most populous, to show a more remarkable list within the last 35 years. It adds to the confidence with which I congratulate you on your lucky venture in becoming pioneers. I close with the remark that after looking far I have come to the conclusion that nowhere is there a community in which the people generally are more intellectual and better, or more respectful to the moral dignity of their neighbours, than here, and that no other place offers to me a more enjoyable life than San Francisco.

NOTE.—The following are some authorities for facts mentioned in the address:—

"The Life and Adventures of James W. Marshall, the Discoverer of Gold in California." By George F. Parsons, Sacramento, 1870.

"Hutchings' Magazine." San Francisco, 1857. (Containing, at page 193, Vol. II., statements of Marshall and Sutter.)

"Handbook of Mining." By John S. Hittell, San Francisco, 1862. (Containing the substance of a statement by Isaac Humphrey.)

"The Commerce and Industries of the Pacific Coast." By John S. Hittell, San Francisco, 1882. (Containing descriptions of some of the inventions mentioned.)

"Mining Industry." By James D. Hague, Washington, 1870. (Containing history of Washoe pan.)

"Hydraulic Mining in California." By A. J. Bowie, jun., in press. (Containing a history of hydraulic mining and its processes, and much information about pipes for the conveyance of water under high pressure.)

A NEW LUBRICATOR.

Messrs. Carl Bartlett and Co., of Newcastle Quay, have long held a high position as importers of Russian, American, and continental oils, oil refiners and manufacturers. Some idea of the extent of their business may be formed when we mention that they have extensive stores at Newcastle, Sunderland, Leeds, Bristol, London, Newport, Swansea, &c. But what we wish to advert to particularly at present is the fact that this firm have commenced to make a grease specially adapted for use in ironworks, collieries, &c., for lubricating surface and underground wagons, &c. This new lubricant only contains ingredients that are really good lubricants; it is entirely free from lime, barites, and other substances which are not lubricants. The grease usually employed for these purposes is called "antifriction grease," but this mixture might with more propriety be called "friction grease," as it contains a considerable amount of matter, lime, &c., as mentioned above, from which no useful effect is obtained, to put it in the mildest way. Strictly speaking, perhaps it would be more correct to state that those substances have an injurious effect. Those mixtures are sold at a cheap rate—that is, it appears in the face of it, looking at the price per ton, that the price is low, but if we exclude those ingredients which only give weight it will be found that the real weight of the lubricating substances is much less than the total weight, and consequently the price per ton of the lubricating substance is much higher in reality than appears in the face of the invoice price. As we have remarked above, the new grease is composed entirely of good lubricating substances, so that the full benefit of the weight of the grease is got from it in actual work. The basis of this grease is a solidified oil, and although it adheres well to the shaft it will not clog or harden on it, and it continues to lubricate the bearing as long as there is a particle of the substance left on it.

A REDUCTION IN RAILWAY RATES ON IRON ORE.

The announcement by the railway companies serving South Staffordshire of a rebate for six months of 1s. per ton in the freights upon cokes has been followed this week by an announcement from the London and North-Western and Midland Railway Companies of a reduction of 4d. per ton in the carriage upon iron ores from the Kettering district of Northamptonshire. The rates to Wolverhampton from the under-mentioned stations now become: Desborough, 2s. 7d.; Rushton, 2s. 7d.; Kettering, 2s. 9d.; Cranford, 2s. 11d.; Twywell, 2s. 11d.; Rounds, 3s. 1d.; Isam, 2s. 10d.; Finedon, 2s. 10d.; Wellingsborough, Mid., 2s. 9d.; Weldon and Corby, 2s. 9d.; Grimston (Holwell Siding), 2s. 9d.; Old Dally, 2s. 7d.; Stamford (Timwell Siding), 3s. 1d.; and Gretton, 2s. 11d. This reduction follows upon a drop of a similar amount which took place last March, and the relief is received with much satisfaction by ironmasters. Their agitation for a reduction in the iron ore rates from North Staffordshire has not, however, been yet successful. These rates are 3s. 10d. per ton for a distance of about 35 to 40 miles as against the reduced rate of 2s. 10d. per ton from Northamptonshire for nearly double the distance. An agitation is also going on for a reduction in the rate for limestone from North Wales to South Staffordshire. The present rate is 3s. 2d. per ton for distance of between 60 and 64 miles, which it will be seen is 4d. to 5d. per ton more than is charged for ores from Northamptonshire, notwithstanding that the distance in the latter case is 80 miles. The Staffordshire ironmasters urge that limestone rates ought to be reduced at least 3d. to 4d. per ton, and they are determined still to continue their agitation. Another anomaly which calls for readjustment is a charge by the railway companies of 8d. per ton for wagon hire for limestone carried, as against a charge of 4d. per ton for similar services in the case of ores.

Trade Reports.

CORNWALL.

November 5.—There certainly has been a more decided feeling in the mining districts during the past few days, and a more definite belief in the approach of better times, which has shown itself in a little more market activity. We are not inclined, however, to attach more than a casual importance to this, for we cannot at all see how there can be any real revival of trade, in spite of the improved statistics, until the present state of political uncertainty comes to an end. Possible foreign complications may also have a very important influence, at the same time we quite believe that the general conditions are increasingly favourable, and must tell ere long.

Coming events may be said to have cast their shadows before, so far as the rise in standards is concerned, especially since the statistics became known, but for the reasons above given we do not consider that adequate results are at all likely to be attained as yet, neither in the rapidity of further advance, nor in the development of increased activity. For these things we must be content to wait until the disturbing elements have passed away. We shall not be at all surprised, however, if by the end of the year the improvement effected has not been very material, at any rate, that is our present forecast.

Cook's Kitchen of late years has been a disappointing mine, but it has been fortunate in this—that it has a capital body of shareholders, who have shown their determination to give the venture a fair chance, and an energetic manager who has never lost faith. Judging by all appearances success has for some time been steadily getting nearer, and probably the prospects were never better than they are now, and success here really means something more than prosperity for Cook's Kitchen. It means also advantage to the district, not only in returns and in the increase of confidence, but in the strengthening of the belief that Dolcoath is not so exceptional in its conditions as some at any rate still continue to believe.

The question has been asked whether the Tamar Smelting Company is to be regarded as having entered within the charmed circle which so far has absorbed all the tin smelting firms that have survived the process of competition. Probably we shall know more definitely ere long; but the statement that the company have dropped their price for Phoenix tin to the ordinary standard level, does seem significant. There certainly will never be any real competition in the produce of our tin miners until they are prepared to go into the metal market for themselves, and even then they will be hampered in more ways than one. Fair Sale would do more good than Fair Trade, however, as at present put forth.

The more, indeed, the proposal to protect our mining industry is discussed the less in favour does it seem to be. Probably the idea has even fewer supporters now than it had when it was first mooted, though it cannot be said that it was received then with any particular approval. It has, of course, a few friends, and it has a certain amount of animation given to it by the references made by some of the candidates to the Commission on Depression of Trade. So far as Cornwall, however, is concerned, it does not seem likely that we shall hear very much on this head after the election. Meanwhile the need for some reform of the Land Laws in their local aspects has been emphasised by the farmers, some of whom have felt the pinch severely.

A very serious and fatal boiler explosion has occurred on the borders of Cornwall and Devon, at Calstock, but not in connection with any mining or allied operations. The boiler drove an engine on the works of Mr. Roskilly, builder, at Albaston, and three persons were killed, one being a foreman, and the other two persons who had brought work to the smithy to be done. A lad, also, is very seriously injured, and it seems almost a miracle that the loss of life was not much greater. The matter will be enquired into under the supervision of the Board of Trade; but at present the occurrence seems inexplicable.

SOUTH WALES.

November 5.—Business at the principal South Wales ports may be pronounced better all round. The amount sent away from Cardiff last week was 131,811 tons foreign, and about 23,000 coastwise, with 1930 tons patent fuel; Newport, 30,187 tons foreign, and 20,148 coastwise. Swansea, 19,835 tons foreign, and about 12,000 coastwise, with 3290 tons patent fuel. The demand for house coal is good, and there is a better market for both small steam coal and patent fuel. The iron and steel trades are as bad as they can be. Many men are under day-to-day contracts. Contracts for ironwork which might be executed on the spot are very often sent abroad. Only 100 tons were sent away last week from Newport. The arrivals of iron ore at Cardiff amounted to 7752 tons from Bilbao, and 2394 from other places; Cardiff received 6920 tons from Bilbao, and 2960 from other places. The tin-plate trade is not quite so good, as prices have somewhat weakened. It is suspected that more plates are made than are publicly admitted. Good IC plates are quoted at from 15s. to 15s. 3d.; Bessemer steels, 115s. to 15s. 6d.; Siemens' steels, 15s. 6d. to 16s. Out of a total of 228,000 tons shipped in the nine months ending September, 112,000 tons have been shipped at Swansea. The amount in stock at that port at the end of last week was 86,435 boxes.

LANCASHIRE.

November 5.—Continued general depression, with a downward tendency in prices, still represents the condition of the Iron Trade throughout this district. In the present unsettled state of the market, with the absence of any hopefulness in the outlook for the immediate future, there is really no disposition to buy beyond absolute hand to mouth requirements, and these are so small that the business put forward in the market scarcely affords any actual test of prices. Pig-iron makers, however, are in many cases prepared to take lower prices to secure orders, local brands being now quoted at 38s. 6d. to 39s., and some district brands at 38s. to 38s. 6d., less 2½ delivered equal to Manchester, whilst amongst dealers there is a good deal of underquoting, and both Scotch and Middlesbrough irons are to be bought here at under the prices asked by makers. Hematites continue in very poor demand in this district, and for quantities good foundry qualities could be got at about 5ls. to 5ls. 6d., less 2½ delivered equal to Manchester. There is still only a very slow trade doing in manufactured iron, and to effect sales makers in some instances are coming below the late minimum rates; delivered into the Manchester district bars can now be got at from 5s. 2s. 6d. to 5s. 5s. with hoops at from 5s. 12s. 6d. to 5s. 15s. per ton, and it is only in sheets that any real firmness is being maintained. A fairly large business has been doing in purple ore, contracts for which are now being renewed. The average price got is about 5s. per ton on trucks, which is 6d. in advance of the minimum at which the last contracts were placed.

The condition of the engineering trades continues without improvement, and the returns from Trades' Union sources report work as flat throughout the Lancashire districts, with a large percentage of men in receipt of out-of-work support.

The better qualities of round coal continue in fairly good de-

mand for house fire consumption, and pits generally are working about full time, but requirements for iron making and steam purposes show no improvement, and common round coal and engine fuel are plentiful in the market and low in price. The advance at the leading Manchester pits at the commencement of the month has not, except in the immediate district, been followed by any general upward movement.

NORTH AND SOUTH STAFFORDSHIRE.

November 5.—The state of the Coal Trade just now shows but little alteration from week to week. If winter were to set in in earnest, or an immediate agitation were begun by the colliers, then increased activity might be looked for at the pits and higher prices. But at present the sales are below the average, and prices allow only small profits. Furnace coal is 8s. to 10s. per ton, mill 6s. 6d. to 7s. 6d., and forge 5s. 3d. to 6s. per ton. The pig-iron trade is quiet, but deliveries are going on steadily under earlier sales. All-mine native hot blast pigs are 55s. to 60s., part-mines 40s. to 45s., and cinder sorts 32s. 6d. to 35s. There is proportionately a better demand for foundry iron than raw forge iron. The number of furnaces blowing show no change upon the last return. Manufactured iron is not improving, and specifications at the sheet mills are not so plentiful as recently. The works, however, keep on steadily. Prices are not strong. Sheets doubles are plentiful at 6s. 18s., and battens at 7s. 15s., and in some cases 7s. 12s. 6d. Bars range from 7s. 10s. down to 5s. 10s. and 5s. 5s. per ton.

Some doubt having been thrown upon the preliminary announcement that a reduction of 1s. per ton, upon the carriage of cokes coming into this district from South Wales, Derbyshire, and Lancashire, would be made on the 1st of November, by the London and North Western, the Great Western, and Midland Railway Companies, it is gratifying to be able to announce that these companies have this week formally confirmed the preliminary announcement. The advantage to Staffordshire pig makers will be considerable, and is very gladly welcomed. So also is drop which is announced in the railway freights upon iron ore traffic.

The arbitrators under the South Staffordshire Mines Drainage Act have given notice of their intention to make a draft mines drainage award for the Old Hill district for the ensuing year, and they estimate that a rate will be required of 3d. per ton upon fire-clay and limestone, and 6d. per ton upon ironstone, coal, and slack. Evidence concerning the proposal may be given by owners on the 13th inst.

The committee of the miners' delegates who have had in hand the taking of the ballot among the colliers in South Staffordshire upon the wages question, have declined to make known the figures, but it is believed that the men at most of the large pits "plumped" for an advance being demanded. An adjourned general meeting of delegates is called for Great Bridge next Monday to consider the decision which may be come to by the Manchester Conference this week.

The movement among the South Staffordshire ironmasters for a reduction in wages, to which I have previously referred, has now taken definite form in that the employers' section of the Mill and Forge Wages' Board have given the requisite month's notice for a reconsideration of the wages question. It is urged that a reduction of at least 5 per cent. must take place, since even making allowance for the Northern "extras" of 6d. per ton on puddling, equal to 5 per cent., Staffordshire wages are, now that a reduction of 2½ per cent. has been declared in the North of England, at least 5 per cent. above those of Cleveland. Indeed, it is a matter for argument as to whether wages are not really 10 per cent. above those in the North.

DERBYSHIRE AND YORKSHIRE.

November 5.—Politics and the wages question are keeping the miners in Derbyshire pretty well exercised, meetings being frequently held with respect to both. The agent of the Association of Miners, Mr. Haslam, nothing daunted at having a powerful rival holding the same views that he does politically, and another one in every way opposed to him, persists in his candidature, depending almost solely upon the votes of the miners, although there is a considerable number of these that do not recognise either Mr. Haslam or his Association, and will not subscribe towards his expenses to start with, or, in the event of his election, help to support him to reside in London. The members of the Miners' Association having agreed to go to the utmost extent for the purpose of obtaining the 15 per cent. advance, and having sent delegates to the Conference which opened at Manchester yesterday, are now awaiting with a good deal of interest the decision come to by the combined wisdom of the representatives of the Midland, West Yorkshire, Lancashire, and other mining districts. It is expected that the men will be counselled to send in their notices at the next pay-day in the event of the advance being refused, which very little doubt will be the case. The men are not in a position to stand out without support, and where that support is to come from must be a puzzle for those most interested. There are no funds of any consequence to fall back upon, and the workmen in other trades are not likely to help them, seeing that the movement, if successful, would be most injurious to every one of our leading industries. The business doing at some of the collieries is scarcely as active as what it was, but on the whole it may be said to be very fair for the season. Derbyshire, indeed, is more favourably situated for trade in coal than many other mining districts, being in comparatively close proximity to London and other large markets. More coal, in fact, is sent to London from Derbyshire than from any other two counties, Clay Cross by itself having of late sent at the rate of 1000 tons a day, whilst a large tonnage has also gone from Langley Mill, Eckington, Grassmoor, and Blackwell. But the supplies sent appear to have been rather more than the requirements, consequently prices have not gone up as might be expected, especially with the prospect of a strike of considerable dimensions being by no means improbable. But the metropolitan merchants do not pay so much attention to threats of strikes on the part of the miners as they did formerly, for they know that they cannot be of long duration, and that there will be no difficulty in obtaining all the coal they are likely to require. Gas coal has continued to go freely, especially to the south, and this, of course, is of consequence to some of the pits. At the same time, it may be said, that in nearly all contracts there is a clause relating to strikes, exempting the strict carrying out of them in the event of the pits standing. In steam coal the business doing has kept up to the average; but there is scarcely so much required for smelting purposes as was the case some time since. The railway companies, however, have taken somewhat freely for their locomotives, whilst the exports are by no means heavy. Small coal has been in but moderate request, and the prices realised, as a rule, have scarcely come up to the paying point.

The production of pig from the furnaces in Derbyshire and Notts has not been so heavy, nor the prices quite so good as what they were earlier in the year. The best foundry brands sell at about 40s. per ton, and ordinary material from 32s. These are prices which, it will be apparent, cannot leave anything like a profit to the smelters, more especially as most of the ironstone comes over the Midland Railway from Northamptonshire,

and it may be assumed that it will take fully 3 tons of ore and more than 2 tons of coal to produce 1 ton of pig-iron. In addition to these, there is the lime, which costs something, exclusive of carriage. The state of the raw iron trade may be inferred by looking at the price it sells for and the cost of the ingredients, to say nothing of workmen's wages. At the foundries business has declined more than otherwise at those where trade was tolerably good during the summer months, whilst at the smaller establishments quietness has been the rule for a considerable time past. In rolled iron the make, not so heavy as it could be, has kept up to about an average, and no improvement has taken place at the works engaged on engines, machinery, or railway wagons.

Unless there is a great change Christmas promises to be a much quieter one than usual for the Sheffield workmen, seeing that several branches, instead of improving, have turned into an opposite direction. The last two months hitherto have been about the best in the year, especially as regards the oldest staples peculiar to the town, but some of these are now amongst the quietest. Foreign orders have come in but slowly, and not in any appreciable volume, whilst the political element at home is a great bar to trade generally. In many instances where the men are working even tolerably they are principally engaged in finishing off orders that have been in hand for some time, but are not being replaced by others. Steelmakers have done tolerably well, and one or two houses are working fairly on Bessemer rails and other kinds of railway forgings, but mostly for exportation. In billets and ingots of the same material there is also a rather steady demand. Crucible steel is scarcely in so much request for heavy castings or plates; but as contracts are about to be entered into by the Admiralty for the building of a new class of vessels to be made of thick steel plates, an improvement in this important branch is likely to set in with the commencement of the New Year. In mining tools no change has taken place, but there has been a steady output of steel wheels and axles, as well as of those of the ordinary type, of which a good many have of late gone to South America. The cutlery branches—table, fancy, pen, and professional are quiet, and that is something unusual for this advanced period of the year; and the same is also the case with respect to nearly all kinds of edge tools. At the mills business has gone on much as usual as regards plates and sheets, with a fair turnout of hoops and general merchant iron, including bars and angles. The foundries, as a rule, are not doing so well, the season being over for several specialities, there not being so much doing in pipes and builders' castings. At the engine and machine works trade has ruled rather quiet, whilst at the railway wagon building establishments there has been a falling off, especially as regards new work.

TYNE AND WEAR.

November 5.—There is little change to note in the state of the Coal Trade; it is difficult to keep the steam collieries on the north side of the Tyne fully at work. There is, however, a good demand for second-class steam coals, small steam coals, and bunker coals. The price of these coals continue low; very good steam coals can be got for 8s. 3d. to 8s. 6d. per ton. There is a slightly improved demand for house coals on the Wear, but nothing like a brisk demand. The price of the coal is from 9s. to 11s. 6d. per ton. There is an improved demand for gas coals at late prices, and the best gas coal pits are, some of them, fully employed. The demand for manufacturing coals is still far from satisfactory, and the inland demand for coke is also deficient, although the demand for export continues fair. The shipments of sewerage pipes and other fire-clay goods also continue on a good scale. The shipments of coal and coke at the Tyne Dock for the week were large, amounting to 108,613 tons, against 94,000 tons in the corresponding week last year. The coal shipments were 74,96, against 44,60 tons. The accountants have given their certificate under the sliding scale in the Durham coal trade, which shows that the net average selling price of coal for the three months of July, August, and September, 1885, was 4s. 6-13d. per ton. The prevailing rate of wages will, therefore, remain unaltered. The Eltringham Colliery and Fire-brick Company continue to develop the Cannel seams of coal lately won there; this coal is valuable, as it contains a large quantity of gas in a pure state, and it is in much request at the gasworks in this locality. This company has also leased a considerable quantity of coal adjoining their present works, the new ground having been worked by the Horsley Coal Company.

We have often referred in this letter to the vexed question of royalty rents on coal. These rents are much too high at present, considering the present value of the coal wrought. In many cases these rents are at the same rate as they were when coal was double the value it is at present. This is, of course, manifestly unjust, and it bears hard on the colliery-owners. In one case, in South Durham, a colliery company who pay 4000/- per annum to the royalty-owners have applied for a reduction in the rate, and this has, as in most cases, been refused. The only course open to the colliery-owner, therefore, is to give notice to relinquish the working of the coal, and this course has been taken in one case that has been under our notice with success.

A NEW VENTILATOR.—A Cockson patent ventilating fan has been recently erected and got to work at the Teams Colliery, near Gateshead. The fan is 20 ft. in diameter, with blades tapering from 11 ft. to 6 ft., with an 11-ft. inlet. The fan is driven by a high-pressure engine, 19-in. cylinder, and 20-in. stroke. Steam is generated by a Lancashire boiler 30 ft. by 7 ft., with two tubes, each 3 ft. diameter. A duplicate engine is also provided, which can in case of accident be coupled to the shaft in a very short time. The fan is placed at the top of the upcast shaft, 10 ft. in diameter. This fan produces a current of air of 80,000 cubic feet per minute, capable of being increased to 100,000 cubic feet per minute, the fan revolving 75 revolutions per minute, the water gauge being 1½ in., and the consumption of coal 2 tons per day. As four men are required to work this fan we can estimate the cost per week for labour and coals, and also compare this cost with the cost of the furnace power formerly employed:—

Four men	Per week	£4 4 0
Coals, 14 tons, at 3s. 6d. per ton		2 9 0
Oil, lights, &c.		0 15 0
		£7 8 0

Equal to 384/- 16s. 0d. per annum.

Previous to the erection of this fan the ventilation of this extensive colliery was produced by three furnaces—9 ft.—each placed at three different shafts in the Yard Seam, Maudlin, and Beaumont seams respectively an aggregate air current of 60,000 cubic feet per minute being produced, nine furnaces were required to attend to those furnaces, and 8 tons of coals were consumed daily. To simplify, improve, and reduce the cost of this complex system of ventilation was the object proposed by the owners in the erection of the fan, and all those objects have been fully attained. It will be seen that when three upcast pits are used, and these pits situated widely apart, that a large amount of coal must be left to protect the shafts and the return air-courses. It is an advantage on these grounds to have the upcast shaft within a reasonable distance of the downcast shaft. To meet this requirement an old shaft was enlarged from 7 ft. to 10 ft. diameter, and

the fan placed at the top of this shaft. The cost of working the furnaces, as will be seen from the above data, was:—

Nine men at 17s. per week	£ 7 13 0
58 tons of coal at 3s. 6d. per ton	9 16 0
= to £17 9s. per week.	
= per annum	907 8 0
Cost of working fan	384 16 0

Leaving a balance in favour of the fan £522 12 0 per annum, and this sum will, of course, soon recoup the cost of the fan and engines. This fan is an improved Guibal, the invention of Mr. Cockson, of Wigan, and it is the first fan of the type erected in this district. It will be observed also that the fan at the present rate of working produces 80,000 cubic feet of air per minute, while the furnaces only produced 60,000 cubic feet per minute, so that one-third more air is put into circulation with a cost enormously reduced.

Although in some quarters there are prognosticated better condition of trade, few people have any faith that these hopes will be realised soon. On Newcastle Exchange the complaints of dulness and flatness which have existed so long are still generally heard. It is true that there has during the past two weeks been felt an increased demand for shipping, and freights have improved a little in consequence; but we look in vain for any improvement in the iron trade of the district, and consequently the coke and many other trades remain in a stagnant state. The iron shipbuilding business has been so very much overdone that we cannot expect any improvement in this important business during the present year, consequently marine engineers and boiler-builders are almost devoid of orders; some of them have only apprentices employed in large shops, and draughtsmen and foremen have in some cases received notices to quit. The raw and manufactured iron markets here continue very flat, and prices are down to a point never before known to prevail except in a very few weeks in 1879. No. 3 pig-iron can be bought at 31s. 9d. per ton. The nominal price for warrants is 32s. 6d. The shipments of pig-iron have fallen off some extent. Messrs. Connal's stock of warrants is 111,346 tons, increase on the week of 3551 tons. There is a small demand for forge iron. The demand for finished iron has not increased, and there is no prospect at present of an improvement. Prices are unchanged. Bars are 4l. 17s. 6d.; ship-plates, 4l. 12s. 6d. There is not much demand for steel. There has been a few orders for railway plant given out for foundry work. The reduction of wages of ironworkers by Dr. Watson's award of 2½ per cent. will give some relief to manufacturers of iron. The coal and coke trades at Middlesborough are very quiet.

Dr. R. S. Watson, on Wednesday, addressed his award to the members of the Board of Conciliation and Arbitration for the manufactured iron trade of the North of England, with respect to his recent arbitration on the wages question. He awards that for three months from and after the 31st inst. there shall be a reduction of 3d. per ton on puddling, and 2½ per cent. on all other forge and mill wages.

THE ELSWICK ARBITRATION CASE.—The award in this case has been given, and one of the arbitrators, Judge Holl, and the umpire, Lord Ravensworth find "that none of the charges relied on before us as evidence against Mr. M'Donnell have been substantiated." Mr. Cowen, the other arbitrator, demurs to this finding to a certain extent. He says that "while I believe that Mr. M'Donnell has in some cases been blamed for what he was not responsible, I think the workmen were justified in their allegations that he displayed a tyrannical manner."

SOUTH STAFFORDSHIRE MINES DRAINAGE COMMISSION.

At a monthly meeting of the South Staffordshire Mines Drainage Commissioners, held in Wolverhampton, on Wednesday, under the chairmanship of Mr. Walter Williams, interesting reports were presented by the underground and surface works engineers. Mr. Edward Terry, the mines drainage engineer for the Tipton and Bilston district, reported that, in consequence of the heavy rainfall, the water in the Bilston district had risen somewhat. The report of Mr. E. B. Marten, chief engineer of the surface works, set out that since August a good deal of cleansing of brook courses and other work had been accomplished over the whole district. The long promised test of the Ocker Hill canal, tunnel, and branches took place on October 26th and 27th. It required much previous arrangement, as the branch above the engines was emptied and all the engines were stopped, and special stanks were put in with a view of cutting off the main canal. The stanks could not be made complete in the available time, but the result of a more limited test of six hours showed a loss in the lower branch of about five-sixteenths of an inch, equal to about a lock per day, but the tunnel appeared watertight. Another test was carried out by the Canal Company on November 3rd to prove basins at Bumble Hole, where a great deal has been expended by the Commissioners and the Canal Company to remedy the effect of mining. The test was complicated by a heavy rainfall, but it showed such a loss that a stoppage for repairs will have to be arranged very shortly. The attention of Local Boards is being drawn to places where their roads drain into the mines for want of proper channels to the streams. Remarking upon the reports the Chairman congratulated the meeting that the Ocker Hill test should have shown that the leakage there was such as could be coped with without much difficulty. In reply to Mr. Oochrane, the Chairman stated that the present expenditure upon the Tipton district was something like 1300/- or 1400/- per month, of which 900/- was for levels, but there was reason to believe that this expenditure would be shortly curtailed through the completion of one large level.

THE CAPE DIAMOND TRADE.

Returns recently published in Kimberley give the production of Cape diamonds from the four chief mines during the three years ended August 31 last as follows:—

	Carats.	Value.
Kimberley	2,280,123	£2,211,239
De Beer's	1,447,335	1,516,353
Du Toit's Pan	1,483,184	2,099,666
Bultfontein	1,615,878	1,658,071

Total 6,826,520 £7,485,328

Dividing the three years into two periods of 18 months each, it appears that the production of the Kimberley Mine fell off one-half during the second period, while the other three mines increased their output one-sixth. The exports in each year are shown as follows:—

	Carats.	Decd. Value.
Four months ended Dec. 31, 1882..	796,546	£1,156,273
In 1883, 12 months	2,413,954	2,742,521
In 1884, 12 months	2,263,686	2,807,288
In 1885, 8 months, ending Aug. 31. 1,537,196	1,586,796	

Total, 36 months 7,011,382 £8,292,878

It thus appears the exports of diamonds from the colony (making allowance for exports not included in the returns) cannot have been worth less than 9,000,000/- for the three years, or an average of 3,000,000/- per annum. Were this sum struck out from the total export trade the balance against the colony would obviously be very serious. The importance of suppressing the trade in diamonds stolen from the mines, to which the Cape Government has latterly given increased attention, is thus apparent.

INTERNATIONAL INVENTIONS' EXHIBITION.—Messrs. Robey and Co., of Globe Works, Lincoln, have received the highest award—a gold medal, for their patent improved Robey mining engine, horizontal fixed engine, and Robey compound semi-fixed engine, fitted with electrical regulator.

Meetings of Public Companies.

UNITED MEXICAN MINING COMPANY (LIMITED).

The ordinary half-yearly general meeting of shareholders was held at the Guildhall Coffee House, Gresham-street, on Wednesday, Mr. GEORGE HARRIS (the Chairman) presiding.

Mr. DAVID GREENE (the secretary) read the notice calling the meeting, and the report and accounts were taken as read.

The CHAIRMAN said that the accounts had been audited, but owing to an omission their certificate had not been appended to the accounts; it was, however, on the table, and could be seen by the shareholders. In moving the adoption of the report and accounts he wished to say a few words, and give a few more details. When the late Mr. Furber retired from Mexico he was the company's chief commissioner and mining engineer, and he appointed as chief engineer Mr. Hay, a gentleman of strict probity, and who was well versed in the company's affairs, and he appointed Mr. Rocha, a miner of repute, as mining engineer. When Mr. Furber arrived in England the board invited him to take a seat as director, and for some years he occupied that seat, during which time he wrote most of the dispatches, and supplemented his opinion as to the working of the company's property in Mexico. When Mr. Furber became too old to attend the meetings he retired, but the board still retained his valuable assistance by nominating him as honorary consulting engineer of the company. When Mr. Furber died, and when Mr. Browne retired, it was necessary for the directors to look out for some gentleman who would be competent to proceed to Mexico and report fully on what was going on there, and the directors were fortunate in selecting their friend, Mr. Greene, who combined the knowledge of a practical engineer with somewhat of mining, he having been for some years at the Rio Tinto Mines, and he also possessed a thorough knowledge of Spanish. The Directors appointed Mr. Greene as secretary, and they had no reason to regret the appointment they had made. When they were about to dispatch Mr. Greene to Mexico the news of the retirement of Mr. Rocha was sent home, and the suggestion of an influential shareholder that a mining engineer should accompany Mr. Greene and report to the board was agreed to, and Mr. Bunsen, of Leadville, Colorado, was selected for the duty, who would see the difference in the mining of these two districts, and be able fully to report to the directors what he thought of the mode of working, &c. When Mr. Bunsen's report arrived in London it was immediately placed upon the table for the perusal of shareholders, and a copy was forthwith sent to Mr. Hay. The shareholders generally were not supplied with it, simply because the directors thought it was necessary to have Mr. Hay's criticism upon it before this was done. Several of the suggestions made by Mr. Bunsen in the report appeared so practical to the directors as to the working arrangements that they immediately sent out instructions that they should be carried out. Now, as regarded the finances. In 1884, when the company commenced dividends, they received from the mine about 43,000/-, and the directors paid two dividends of 2s. 6d. each, they put 10,000/- to the reserve fund, and they paid for rails and wagons and various appliances the balance of that sum. In 1885 they had received altogether about 34,000/-, and they had 5000/- on route. Out of this they had paid one dividend of 2s. 6d., amounting to nearly 16,000/-, they had placed 12,000/- to the reserve fund, and they had about 11,000/- left. So having made up the reserve fund to 27,000/- they would have over 5000/- in hand. There were payments to make for materials to Mexico, and the lawyer's bill, and also the expenses of the warrants to bearer. So they might calculate they had 4000/- to the good towards the next dividend after forming the reserve fund to the full amount. It was a source of regret to the directors that the ley of the ore for the 12 months had been so low. It is only half of what it was. The cargas were very materially increased during the past few weeks. By the last half-yearly account it was between 700 or 800 cargas produced for the week, but during the last two weeks they had had 906 cargas and 999 cargas respectively. The ley of the lode was very low, that was the misfortune; but as all silver mines were bunched they had to work the rich ore and the poor, and it was to be hoped that the quality of the ore would increase, and that the company would be making larger profits. (Hear, hear.) In conclusion, the Chairman moved the adoption of the report and accounts.—Mr. GOLDSMID seconded the motion.

Mr. GREENE (the secretary) at the request of a SHAREHOLDER, read the certificate of the auditors as follows:—"We have examined the appended accounts and compared them by the books of the company and found them to agree therewith." He added that it was purely an accidental omission that the certificate was not appended to the accounts.

Mr. WILLIAM ABBOTT said he was afraid the directors would still regard him as a somewhat hostile individual, but as he saw that the board took credit in the report for many improvements made in the company during the past two years, he thought it was only right to say that every one of the improvements which had been made had been made at his instigation. Therefore, he hoped the few remarks he was about to make would be of equal benefit to the company as the suggestions which had preceded them. He was sorry that just as they had entered upon a new era of activity, with new secretary and shares to bearer and telegrams, and, in point of fact, waking up they should have begun by the fatal mistake of issuing a balance-sheet unsigned by the auditors. He was obliged to refer to the question of audit, as at the last meeting he took exception to the way in which the accounts were made up, and he objected to the system of having amateur auditors instead of professional auditors. He then heard for the first time that the auditors felt the necessity of professional assistance, and that a professional auditor, a chartered accountant, was to be appointed; but he thought the Chairman made a mistake in selecting as auditor a gentleman who was a friend of his own, and which was the principal recommendation, and he had then to point out that if any officer of the company was the shareholders' officer it was the auditor, and, therefore, the auditor should be appointed independent of the board entirely, and he maintained that if Messrs. Turquand, Youngs, and Co., or Deloitte, Dever, Griffiths, and Co., or some other professional auditors had been appointed, such a fatal mistake as issuing a balance-sheet unsigned by the auditors would not have occurred. (Hear, hear.) As regarded the amount of money in hand, and which had been placed to reserve fund, he must say it was rather a disappointment to him and to every shareholder that the reserve fund should be accumulated with what seemed to him to be unseemly haste. They had only discovered recently that it was necessary to have a reserve fund, and the moment the directors discovered this they set to work to build it up instead of spreading it over a period of time. He asked whether the board were obliged by any law, here or in Mexico, to immediately complete the 27,000/- If not, he did not say that he would move an amendment, but he should express a very strong opinion upon the part of the shareholders that it was unfair to keep them without a dividend for many years in order to complete that reserve fund. Mr. Abbott went on to refer to the fact that in the advertisement inviting applications for the post of engineer amongst their qualifications all the applicants were to possess was a theoretical knowledge of mining. Now, he thought they wanted a man with a practical knowledge, who could assist Mr. Hay by knowledge acquired in a silver mine. As regarded Mr. Bunsen's report, he was in hopes it would do a considerable amount of good. That report reflected upon the management but not upon the honesty of the management, but it reflected upon the antediluvian and antiquated way of managing the property in Mexico, and he must candidly say that the management in London had been somewhat antiquated. Some of his friends informed him some time ago that a great many of the appliances in working the

of doing it, and that when an idea entered their heads they implied a sweeping change all round. He should be sorry to see any such sweeping change made. They could supplement the valuable services of Mr. Hay by sending out an assistant who should be a valuable assistant. It was essential that they should have a man of experience to assist Mr. Hay, and they should look to Mr. Hay as the chief manager and commissioner. He believed he was expressing the views of the shareholders in saying that they did not wish to work this property for the benefit of posterity. As the Irishman said, "Why should I do anything for posterity? posterity has done nothing for me." (A laugh.) Therefore he desired, on the part of the shareholders whom he represented, that this property should be worked with all the energy which it was possible to put at the command of Mr. Hay, and that the reforms which had been inaugurated in the establishment in London should be extended still more vigorously to Mexico. (Cheers.)

A SHAREHOLDER said he fully agreed that more energy should be introduced into the establishment in Mexico.

A SHAREHOLDER asked whether, after receiving the report of Mr. Bunsen, the directors still had unlimited confidence in Mr. Hay?

Mr. HORNCastle thought that the report of Mr. Bunsen ought to have been sent to the shareholders in order that they might form their own opinion upon it. He disagreed with Mr. Abbott's opinion regarding the building up of the reserve fund, and thought it was prudent to build up the reserve fund as rapidly as possible, so as to leave the profits available for dividends.

Some discussion ensued, in which Mr. MINHINNICK and one or two other gentlemen took part.

The CHAIRMAN, replying to the questions and observations, said he had to explain, with regard to the auditors' certificate not being appended to the accounts, that it was necessary to let the shareholders have a copy of the report and accounts as soon as possible, and the auditors' certificate had not been received when the report and accounts were printed, and they were not sent back to be reprinted. As to the reserve fund the directors were compelled by law to make it up to 27,000*l.* odd before dividing the profits. The directors were anxious that the shareholders should divide the profits, but they were legally compelled to make up the reserve fund before the whole of the profits could be divided amongst the shareholders. The reserve fund would be completed by the end of the month, as the directors had the funds in hand, and then the profits would be divided amongst the shareholders. About seven-eighths of the reserve fund would belong to the company, and the interest accruing upon that would go towards paying the London expenses. As to Mr. Bunsen's report the directors considered it inexpedient to publish it until they had received Mr. Hay's criticisms upon it, and these were received only three or four days ago. There would, no doubt, be a consultation with many of the large shareholders on the subject.

Mr. ERDMANN called attention to the item of "unclaimed dividends" now written off, 520*l.*; he apprehended that that amount must be in hard cash at the bankers, and he asked what had become of the cash?—The SECRETARY explained that it was a book account. The 2500*l.* was an old liability received from the old company, and it was transferred to this company, but the old company never gave the new company any cash. It was represented by assets on the other side of the balance-sheet.

Mr. ERDMANN said it seemed to him that the 27,000*l.* was represented in cash here, and also by ore in reserve on the other side.

Mr. J. G. JOHNSON (a director) said he could answer that question. The had 27,000*l.* of ore in reserve, and three times that amount; but that ore existed in pillars. They worked between the pillars in shafts and galleries, and they had to work to the end of the supply before they returned and took the reserves away, otherwise they could not prosecute the mine in advance, and, therefore, although they had the reserves, they could not utilise them. As soon as they had worked out that part of the mine they could return and utilise the reserves.

The resolution for the adoption of the report and accounts was then put and carried.

Mr. WILLIAM ABBOTT then gave formal notice that at the next meeting he should move that professional auditors be elected to audit the accounts of the company.

A vote of thanks to the Chairman and directors closed the proceedings.

NEW KITTY MINE COMPANY.

The four-monthly meeting of shareholders was held at the offices of the company, Walbrook, on Tuesday.

Mr. LENNOX: Gentlemen, I am sorry to tell you that our friend Mr. John B. Reynolds, who generally presides with such happiness on these occasions, is ill at home—in fact, he is in bed. We must have a Chairman to day, and it seems to me that the gentleman who holds the largest number of shares in the company should be elected to fill that position. I, therefore, beg to move that Mr. J. J. Couzens take the chair.—Mr. W. BELLINGHAM seconded the motion, which was carried, and Mr. COUZENS took the chair.

Mr. JOHN REYNOLDS (the secretary), read the notice calling the meeting, also the statement of accounts; they showed a balance of cash at the bankers of 131*l.* 0*s.* 2*d.*, with no liabilities due and unpaid.

The CHAIRMAN then read the following report from Capt. Vivian:—

November 2.—I beg to hand you the following report. Since the meeting held on the 30th of June last we have confined our operations to driving east of Thomas's shaft. In the 20 driving east of the shaft the lode has very much improved, worth about 7*s.* per fathom for copper ore, and also producing good stones of tin. The 40 driving east, lode about 3 ft. wide, of a very promising character, but not to value. This end is about 10 fms. behind the 20 fms. level. I consider our prospects are much better to-day than for some time past, seeing the improvement we have at the 20, our furthest point east, which is just now getting over the rich courses of tin in West Kitty. I would also state that in West Kitty, where they have bunches of copper ore, it is followed by a good course of tin, and I am hoping we shall soon realise the long-expected prize in this mine.

The CHAIRMAN said:—Gentlemen, I may personally express my regret, as I have done with you already, in the illness and absence of our worthy Chairman, Mr. Reynolds. I am sorry to occupy this position on account of his illness, and also on account of my own incapacity, in some respects, to fill it, or, rather, I feel that Mr. Reynolds could have filled it much more ably than I can do, having been accustomed to take the chair for the past five years, I think it is now, ever since the existence of the company. I am sure we are all very sorry he is laid aside by illness, and not able to be present; and I am also sure we shall all express the unanimous hope that he will soon get over his illness, and be himself again. (Hear, hear.)

Now, gentlemen, to come to the business in hand. I think, we have every reason to be satisfied with the report of Capt. Vivian, which I have just read. (Hear, hear.) There is a good deal in this report to encourage us all, and those who know most of New Kitty will be most encouraged by it, because they can enter most fully into the position of affairs, and can realise not only the present position of New Kitty, but also what the future prospects of the mine are.

I think myself that we are on the eve in New Kitty of something very important and very good—in fact, what we have been aiming at for the last five years; that is to say, I believe we are near a course of tin. We have the copper, and I am also much encouraged about this copper lode or the copper which is in the lode at the 20 fm. level, which must be very rich. I know enough to know that it is very rich copper, being valued at 7*s.* per fathom. This indicates or augurs that we shall get a rich lode for tin as we have at present a rich lode for copper. It is not what the New Kitty is at the 20 east that I attach so much importance to, but it is what it will lead to. (Hear, hear.) You all know my reasons for having gone into New Kitty, and for holding on, and one is tired of reiterating them. I find this in mining, that you must have good and substantial reasons, and you must stick to them; and when the market is against us, and the shares in the market are down to 10*s.* or 12*s.* 6*d.* per share, you will find then the advantage of having something to hold on with in the way of something like substantial reasons for having gone into the mine, and for sticking to it. (Hear, hear.) These reasons have not changed with me, and I hold to-day more firmly than I have ever held before, because I believe we are on the

eve of obtaining what we have been striving for for five years. I believe we are on the eve of coming to a good course of tin in the 20 fm. level east of Thomas shaft, and I expect the same course in the 40, which is not so far advanced. It is 10 fms. behind us. There is tin in West Kitty, and also in Wheal Kitty, towards which we are driving from the 90 to the 100, so if we can come into a course of tin there, there will be plenty of tin to take away. Therefore, we have every reason to be well satisfied with the present position of New Kitty, and still more so when we regard its future prospects, and I hope these prospects, the brightest and best, will be realised by us. I think they will. I believe there is a bright future before New Kitty, and that those who stick to it will be well rewarded. I have stuck to it for five years. I went into West Kitty when it was rather dark, and many advised me not to go into it, and many more advised me after I was in, and when I had 1500 shares, to sell at 2*s.* per share—(a laugh)—but I said "No." I was firm in that, and you know the result in West Kitty, and I believe there will be similar results in New Kitty; I believe it will turn out to be a prize, and I believe the prize is near, and that those who hold on, and have held for five years, deserve to be rewarded for their patience, and I believe they will get their reward. (Cheers.) I beg to move the adoption of the statement of accounts, and of Capt. Vivian's report.

Mr. LENNOX seconded the motion.

The CHAIRMAN said that Capt. Vivian was present, and would be happy to answer any question.

Mr. BELLINGHAM said that probably it would be better if Captain Vivian made a few remarks regarding the position and prospects of the mine.

Capt. VIVIAN: I am very pleased to tell you what I know. I am more pleased to meet you to-day than the last time we met, as that meeting was not so pleasant as our meetings had always been; but it seems those gentlemen have gone out; they thought the ship was sinking and that they would leave it, and perhaps they have left it just on the eve of prosperity. (Hear, hear.) It seems that, if you get a Jonah aboard, do what you like you cannot get on, but directly the Jonah leaves you, you get on. (A laugh.) I am sorry they have lost their money. It is not our fault. (Hear, hear.) We have not met for five years under such favourable circumstances as to-day. We have not got the rich lode of tin yet; but we have got precisely the same thing as we had in West Kitty for some time before we got into the great course of tin. All parties who know the two mines know really and truly that New Kitty is part and parcel of West Kitty. It is the same lode, and the two properties adjoin each other, and, therefore, a little improvement is looked upon in this mine as a great thing, and well it might be so, seeing they are so closely connected. In West Kitty before we had the tin, eight or ten years ago, we had copper in West Kitty, and we sold one parcel of 40 tons, which fetched something over 9*s.* per ton, and we had several other sales of copper with stones of tin, and in time it got to the great course of tin, which you all know we had, and still have, in West Kitty and New Kitty seems to me to be coming about in the same way as West Kitty. Up to the present time we have had no very rich course of tin, but we get small bunches of copper ore. We have 20 tons of rich copper ore at surface, which we have been taking out for six months. New Kitty seems to be coming about just in the same way as West Kitty. The beauty of this improvement is that we have got it at the 20 fm. level. The 40 fm. level is about 10 fms. behind this improvement, and I have no doubt that when we get up to it we shall have better lodes at the 40 than at the 20. If I see that we have the improvement at the next meeting—and I hope then to be close to it if not up to it—then I shall recommend that we sink the shaft. (Hear, hear.) I know some persons whisper about that New Kitty is unbottomed by West Kitty; of course, it is in depth, but we have not got to the extent of our ground in depth. We have a great many more fathoms to sink, and seeing what we have coming up in West Kitty I have every reason to believe that the best of the mine in New Kitty is under our feet and not seen, so I hope parties who think that the bottom of the shaft at New Kitty has gone into West Kitty will dispel all their fears about that, and that we shall sink the shaft again and have a good mine. A gentleman said to me to-day, "The ground is short, and will not last long." I am afraid, I was going to say, that it will last longer than I shall. There is ground enough there for 10 years' hard work before we get into West Kitty, and that is long enough to look forward to in mining. Looking at the mine all round I do really think that we are on the eve of success. I have been holding out the prospects of this mine for something like five years, and if it is a failure people will say, "So much for Captain Vivian's judgment." You can see all of you that I have reason to hope, and believe that it will be a good mine, and I shall do my best to bring it about. (Cheers.)

Mr. BELLINGHAM said that at the last meeting he suggested that a map of the St. Agnes district, showing the position of the mines and the dip of the lodes in New Kitty as towards West Kitty, should be drawn up, and suspended on the wall, and he again suggested that this should be done, as it would enable the shareholders to more clearly understand the position and working of the mine. They had the lode in a shallower level than West Kitty, which was so much in their favour. He hoped Capt. Vivian would at once go deeper with the shaft. If they were to make New Kitty a mine they must make it a mine in depth. It was no use working on the shallow levels. Instead of making a call of 2*s.* it would be better to at once make a call of 4*s.*, and get the results in 12 months, rather than make a call of 2*s.*, and get the results in two years.

Capt. VIVIAN: I think we are doing the right thing. If I thought that we were not doing the right thing, and wanted to alter the course, I should advise you to do it; but if we are going to get a mine in New Kitty, we shall get it in the levels we are driving. The calls have not been very large, but they have been very regular—(a laugh)—and some gentlemen who have a large interest in the mine have felt the pinch. As I said before, I believe we are going to bring New Kitty about the same as we did West Kitty. We did in West Kitty what scarcely any man in Cornwall has done. We have spent 4000*l.*, and we never took 3500*l.* of purchase-money. We shall hope bring New Kitty about in the same way. I do not want to spend money and shut people out. I have seen many a mine in which they went on spending money, and in a year could not get more money, and the prize has been left for someone else.

Mr. BELLINGHAM asked Captain Vivian whether he could not increase the number of men? If instead of the costs being 80*s.* or 90*s.* per month they were increased to 170*s.* or 180*s.* per month, and they achieved the result in half the time, it would come to the same thing.

Captain VIVIAN: I do not think we can. If the mine is to be profitable it will come about from the two levels, and if they are failures we may shut up the mine as soon as we like. We have day and night shifts always working.

Mr. BELLINGHAM: What is the average wages of the men?

Captain VIVIAN: About 3*s.* 10*s.* per month in the Cornish mines.

Mr. BELLINGHAM: I wish it was more.

Mr. GEORGE BUDD said he sympathised with Mr. Bellingham's object, but at the same time the making of large calls might be a serious thing to some persons who had to find the cash. He thought that Captain Vivian had answered the point conclusively. They were working in a certain direction which would test the mine, and Captain Vivian had all the hands he could employ in the working, therefore it would be unwise to call a large amount of money before they really were perfectly sure that they had something worth prospecting. (Hear, hear.) He agreed that they should have a map of the district.

Mr. FREDERICK J. HARVEY said they had Symons' map in the office, which was at the service of any shareholder.—[This was produced, and inspected.]

The CHAIRMAN said he was often in Cornwall, and had been over New Kitty again and again, and, as far as he was personally concerned, he believed that Capt. Vivian was doing all he could in New Kitty. They had every reason to push on the two levels, which would prove New Kitty, and not only so but they help to pay the cost and enable them to sink the shaft and put up dressing machinery. He had every confidence in Capt. Vivian's management; they could not find a better man in Cornwall. (Hear, hear.) He had also the most perfect confidence in the financial management. (Hear, hear.)

The resolution for the adoption of the statement of accounts, and the agent's report was then put and carried unanimously.

Mr. BELLINGHAM said that he also had every confidence in the management of Capt. Vivian. He proposed that for carrying on the mine during the next three months a call of 2*s.* per share be made on the shares of the company, payable to Messrs. Williams, Williams, and Grylls, bankers, Truro, on or before Tuesday, the 17th November, next.—Mr. GEORGE BUDD seconded the motion, which was carried unanimously.

Mr. GAIT said it must be a special pleasure to the committee at the present time that they had stuck to their posts so long and so steadily. He moved that the best thanks of the meeting be presented to Messrs. Couzens, Dutton, and Reynolds, and the officers of the mine who constituted the committee of audit and finance, for their past services, and that they be re-elected. He said that the course of the committee in the past would justify their being continued in the office they held. (Hear, hear.)—Mr. BELLINGHAM seconded the motion, which was put and carried unanimously.

On the motion of Mr. BUDD, seconded by Mr. LENNOX, a cordial vote of thanks was then passed to Mr. Couzens for his conduct in the chair.

On the motion of Mr. BUDD, seconded by the CHAIRMAN, a vote of sympathy was then passed to Mr. John B. Reynolds in his illness, coupled with the expression of a hope for his speedy recovery.

The proceedings then terminated.

COOK'S KITCHEN.

A 16th-weekly meeting of shareholders was held, on the mine, on Thursday, Mr. WALTER PIKE (the purser) presiding.

The labour costs were 214*s.* 13*s.* 10*d.*: merchants' bills (for three months), 1268*s.* 13*s.* 11*d.*; Carn Brea six months contribute to water charges, 180*s.*; water rents, 48*s.* 15*s.*; Illogan parish rates, 40*s.* 1*s.* 2*d.*; against this 24 tons 19*s.* 2*d.* cwt. of tin realised 1220*s.* 6*s.* 4*d.*; extra carriage, 3*s.* 8*s.* 2*d.*; this shows a loss of 2162*s.* 9*s.* 5*d.*, and increasing the debit balance to 5127*s.* 12*s.* 7*d.*

Captain JOSIAH THOMAS reported: Since the last meeting of adventurers we have cut the plat at the 368, and fixed a new lift for sinking deeper. The engine-shaft is now 5*f.* fathoms under the 368. We appear to be getting near the junction of the main and south lodes, a branch having been met with in the south part of the shaft; the lode is worth for the length of the shaft, 12 ft., 20*s.* per fathom. We are sinking the shaft as rapidly as possible by 20 men. The 368, east of engine-shaft, has been suspended, in order to sink a winze from the 355 for ventilation. This winze was holed last night, and we shall now be able to stop some tin ground which we met with in driving the 368, and which was worth 15*s.* per fathom. The 368 is driven 7 fms. west of engine-shaft. The lode is not yet of much value, but we thought it best to drive westward while the winze was being sunk, as no level had been driven far to the west of engine-shaft below the 306. We have commenced to sink a winze under the 355, near the eastern end. The lode is worth for 9 ft. long, 20*s.* per fathom. Dunkin's lode was intersected in the 234 cross-cut, south of engine-shaft, shortly after the last account, and has been opened on at that level for 11 fms. in length. It is worth for the whole of that distance 20*s.* per fathom. We have commenced to rise over the 234, and also to sink below the 210, and hope to lay open that ground for stopping in about two months from this date. We have no doubt that our return of tin for the next four months will be increased, and we hope before long to meet with an improvement in the lode in sinking the engine-shaft.

Captain THOMAS, in supplementing his report, remarked that the bottom end became so extremely hot that they were obliged to stop it. The men could not work there. The thermometer registered 100*s.* of heat. The winze would now ventilate the end thoroughly, and this winze had been carried through since the last meeting. (A SHAREHOLDER: And a very good job too.) There would be some tin ground there to stop at once, and they could drive the 368 east also. The main point was the sinking of the shaft to get down to the junction, which had made all the great deposits of tin in Dolcoath. They were doing this as fast as possible, and a lift was being fixed. Therefore, there would be no hindrance; at any rate, they apprehended none. All the pitwork was in good condition so far as they knew, and he thought they could sink 2 fms. a month. A great change might occur at any time. They ought to have more tin next time. They knew they had good tin ground on Dunkin's lode.

Mr. FRANK HARVEY enquired as to the report that had been made concerning what had been met with in the bottom of the mine.

Captain THOMAS said they had supposed that Dunkin's lode had dropped into the main lode, and that the lode cut, at the 320 and the 330 was the south lode; but now, in driving the 234 cross-cut, they found they had 9 or 10 fms. further to go to cut Dunkin's lode, and they considered the south lode was further away than they had believed. Their policy was to sink the shaft, and get down to the junction, and also to open on Dunkin's lode.

Mr. HARVEY enquired if it would not be interesting to find out where the south lode was?

Captain THOMAS: Yes. The best thing now is to sink the shaft. That is where we shall meet with something good. If it is certain that the south lode is to the south we cannot do better than sink the engine-shaft.

The reports were adopted, and a call of 1*s.* per share (about equal to the loss) was agreed to.

The CHAIRMAN said the shareholders would be glad to notice that they were seeing daylight at last. They would undoubtedly return more tin next time, and that would lighten the loss considerably. The fact that what they had considered to be the south lode was Dunkin's was to their advantage, as they had now two junctions to look forward to. (Hear, hear.)

COMMERCIAL FAILURES.

The number of failures in England and Wales gazetted during the week ending Saturday, October 31st, was 72. The number in the corresponding week of last year was 65, showing an increase of 7. Being a net increase in 1885, to date, of 591.</

WHEAL BASSET.

A twenty-four weekly meeting of shareholders was held on the mine yesterday (Friday).

Mr. McKEAND (of London) presided.

Total debits were 8830*l.*; 117 tons of tin were sold, realising 93*9*%. A profit was shown of 669*l.* This increased the credit balance to 972*l.* The committee recommended an increase in salaries of agents, and a dividend of 2*s. 6d.* per share. The report was a favourable one.

The CHAIRMAN referred to their position as a most encouraging and pleasant one. He thought it was something like 14 years that they had been asking shareholders to put their hands into their pockets. Their profit was small, but they felt they were pursuing the right course in dividing it, as on previous occasions, when losses had been made, they had called up sufficient money to cover such losses, even that small profit was an encouragement in their dividend. They now had a small return for their outlay, and he hoped and trusted profits would continue. (Applause.) With renewed efforts he believed they might safely contemplate the results he had anticipated. Their report was not quite so good as last time. He had hoped at the last meeting that they would have shown a better result that day. The manager was sorry to inform them that some of the stopes in the 112 had fallen off, and, as a consequence, their returns had decreased some 5 or 6 tons per month. They had opened up a very promising lode at the 190. What it would prove they could not tell, but they should do all they could. They would notice they had a good balance at the bankers, 374*l.*, and although they encroached a little on the balance brought forward from last meeting, the shareholders would also notice they had had a good many things to do, and they had been not a little bothered. They trusted similar work to that done would not be required for many years. After dividing 2*s. 6d.* per share they would have a balance of more than 200*l.* to carry forward. (Applause.) He would remind them they had 72 shares, which they could sell at any time. The committee thought they could command a better price later on. They believed now there would be plenty of buyers. He proposed the adoption of the accounts and reports.

Mr. F. HARVEY (secretary) said they could congratulate themselves on having turned the corner, and he hoped the result was but the precursor of larger dividends in future. (Applause.)

This was agreed to, and the dividend recommended was accepted. Mr. BONE, the seconder, remarking he thought it was fairly earned. The costs, he also said, were fairly charged.

The CHAIRMAN: We are now, gentlemen—at least we hope we are—getting into a better position. (Applause.) But you must not be too sanguine, if you agree to it, if you think it is right. The committee now believe we might have our meetings 16-weekly. (Applause.) We must not, as I say, be too sanguine, but still I think the mine is looking in such position that we hope we will meet you under similar circumstances. (Applause.) I hope more favourable. He proposed a resolution to that effect.—Mr. CARTER seconded the resolution, which was agreed to.

Mr. CARTER moved a vote of thanks to the agents, purser, and committee, and praised them for what they had done in respect of the committee. He contended the time had arrived when they should at least be paid their travelling expenses.—Mr. BRAMWELL seconded, and likewise urged such payment in respect of the manner in which the committee managed expenditure. Mr. Bramwell thought Wheal Basset was an example which was being followed by many mines. They looked to the economical management of that mine as one great feature of very considerable importance in regard to their prosperity. (Applause.)

The CHAIRMAN responding, thanked the shareholders, and in regard to remuneration to the committee said they would take nothing save travelling expenses, to which he felt they were justly entitled to. (Applause.) The committee had done everything they could to bring that mine to a successful issue. They had used all the information, all the energy they possessed, to buy in the cheapest market, exercising diplomacy in so acting, and they endeavoured to sell in the dearest. In proof of this the Chairman said the average price per ton for tin sold during the past half-year was 50*s.* in advance of that obtained in the previous half-year. If they compared this with neighbouring mines they would find themselves above most of them if this was not carefully looked after they would yearly throw away a good deal of money. Connected with the mine there was careful discussion.

Captain TREVENA, as manager, was glad to see the scale turned, and it was another source of pleasure to him that his prediction of success had been borne out. He might say it was not looking quite so well as at the last meeting. If it had continued as last time their profit would have been greater. At the 190, however, they had gone through the lode; there was a marked change from what they had in the various lodes below the 137, these other levels were poor. The 190 showed far better indications than anywhere below the 137, and he believed the deeper they got in the mine the greater the mine would become; and, said Captain Trevena, we shall eventually become one of the greatest mines in the district. (Applause.)

Mr. BRAMWELL: Do you think the measures taken with regard to Wheal Uny water will be effective?—Capt. TREVENA: Yes; the water is at the adit; there we took the precaution when we found the water increasing on us to put a dam in, and, I think, the money has been well spent. We have laid out from 300*l.* to 400*l.* extra in the six months.

The CHAIRMAN, in moving a vote of thanks, to Mr. REYNOLDS (the purser) observed that they had now entered the Dividend-list, and not having paid dues for 14 years this question had to be considered. He hoped Mr. Basset would continue his liberality towards them. They had under the present company spent 46,000*l.*, and were now to receive back 2*s. 6d.* dividend, and at the old mine they previously spent 30,000*l.* They felt confident they should be treated with a great amount of liberality. They could not expect paying dues of some sort, but he trusted the dues would be of small amount. Replying to the vote the purser felt assured their dividends would be increased.

At Wheal Basset meeting, yesterday, the most definite challenge yet made to the dynamite companies was made so far as Cornwall was concerned. Not long since, the companies which had been cutting each other down, forming a ring, raised the price excessively. Cornish shareholders had expressed discontent, and to-day Mr. Waddington, of London, writing to Wheal Basset shareholders, suggested a company being established for supplying the mines of Devon and Cornwall with the explosive. Mr. Waddington characterises the present price as something outrageous. Mr. Harvey, of Harvey and Co., influential merchants and adventurers, stigmatised the price as too high, and Mr. Bramwell, one of the committee of East Pool, said the matter was of great importance, and contended that Cornwall was in the hands of a clique. He believed the companies were getting enormous profits, and if a number of gentlemen would join in a company for manufacturing the explosive he also would take an interest. This announcement was received with applause, which was renewed when Mr. Bone, one of the committee of Wheal Agar and Wheal Basset, after saying it was ridiculous of the dynamite ring to reduce the explosive 5*s.* per ton when they had a margin of 50%, he expressed himself as willing to join any company for manufacturing dynamite. Mr. Harvey followed in a similar strain, and it is expected there will be a practical result, the Chairman promising to write to Mr. Waddington, who has friends willing to join him in the enterprise. The discussion has created already a favourable impression in mining circles.

As soon as Wheal Uny emerges from the Stannaries Court into which the mine was thrown by the action of Mr. Viner it is not improbable the settlement will be resuscitated. At Wheal Basset, yesterday, the shareholders were informed that Mr. Waddington, of London, and his friends, felt they could form a company.

WATSON BROTHERS MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.,
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

It has generally been the practice in Cornwall to value points in a mine (and without explanation) at so much per fathom of 6 feet. Thus a lode, say 9 ft. wide, would be, in fact still is, in many mines valued at, say, 15*s.* per lineal fathom; but that would be for a width of 9 ft., or 1*1/2* fm.—thus the real value of the lode would be only 10*s.* per cubic fathom. In a lode 18 ft. wide the discrepancy would be more glaring, and however well 15*s.* per fathom may sound in such a case the real value of the lode would, of course, be one-third of that sum. In East Blue Hills the plan has been adopted of valuing at per cubic fathom. Thus if the lode in an end or a shaft is 18 ft. wide, valued at 25*s.* per fathom, this means the lode for its whole width is worth 75*s.* per fathom, the agent only valuing the part that he is carrying. At the 20 the lode in the shaft was more than 14 ft. wide, and worth in reality, as Capt. Nance valued it, 100*s.* per fathom. Its full width has not yet been seen, for the shaft is only carried down the ordinary size, and thus only on a portion of the lode. When in about a month this shaft is down to 10 fms. below the 20 the lode will be cut through to show its size and real value, and the shaft will probably be continued another 2 fathoms before driving upon it. At the 20 a rich course of ore has been gone over for nearly 40 fathoms in length, and, if it holds down equally good at the 30, a very rich mine will be opened up. In the 10 fm. level east the lode appears to be coming into a fresh run of ore, and it is 30 fathoms ahead of the 20 east. This is an important point.

At Prince Royal a winze has been commenced in the bottom of the adit, which may lead to something.

Roman Gravels Mine is in Shropshire, not Wales.

The vendor's shares in Oscar participate in profits, as we understand, after the ordinary shares have had 10 per cent. paid upon them; and until that time they cannot be transferred. They are, however, often dealt in by passing the certificate and a transfer from hand to hand, and these are recognised at the offices of the company.

A correspondent in last week's Journal, who signs himself "Miner," states that the remarks we made upon Van have puzzled everyone who knows anything of the mine. Considering that our remarks were based upon official information, and from Capt. Williams himself, and were, in fact, strictly correct, the puzzle, if any, remains with "Miner." We stated that the Van lode—that is, the great and originally productive lode, had not been seen below the 120 fm. level, and that the cross-cut at the 150 would soon reach it, and thus it became a very interesting and important point to watch. Capt. Williams' attention having been called to the letter of "Miner," he replied that what we have said was strictly correct. When so many opinions are abroad about mines and mining it is impossible for us to be strictly right at all times, but we always do the best we can, as we did here, to obtain the most reliable information. If a "Miner," or any shareholders in Van will call at the office of the company he can see a diagram of the underground workings, and judge for himself. At the 120 a cross-cut was put out south from the Van lode for some fathoms and intersected what is called the south-west or new lode. A winze was then sunk down to the 135 here; but the Old Van lode itself has, we are assured, never been seen below the 120. The misunderstanding, if there is any, would seem to have arisen by looking upon these two lodes as one, whereas they are looked upon at the mine and have always been described to us as two distinct lodes.

The report this week from Wheal Crebor is more hopeful as to the point in the 156 level we referred to last week. The lode is looking better and has now a strong resemblance to the lode in the level above the 144 west, before it came into the ore.

We cannot answer all the enquiries as to Organos. We have been small shareholders for a year or two, but know nothing of any improvement to send up shares cent. per cent. till this morning (Friday) when in order to answer an enquiry we sent on to the office of the company to ask for information, and were given the news which we were also told would appear in the Journal on Saturday, when the report reached London, or who have been clearing the market of shares at the low prices we are unable to say; but it is very hard for shareholders, in ignorance of any information or good news, to sell their shares, and see them up in a day or two cent. for cent., and that, too, upon the information the property of all the shareholders alike; but, as it would seem, only known to a few. The directors should see to this, and any important news should in future be sent to all the shareholders alike, and at once.

THE EXAMINATION OF MINES.

The cause of many of our great mining explosions has ever remained a mystery; but there is every reason to believe that some of those which took place shortly after the men commenced work in the morning must have resulted from ineffective examination on the part of the officials, whose duty it is to examine all the places before the men descend. If a mine at any time is in a good condition it should be in the morning, after standing for several hours. But gas will come out at all times, and hence the necessity for a careful examination before the men are allowed to commence their daily labours. The Mines Regulation Act renders such an examination imperative, for in the General Rules it is provided that a competent person or persons shall before the time of commencing work examine, &c., with a safety-lamp such working places, and make a true report as to their condition and enter the same in a book kept for the purpose. There is, therefore, really no check upon the examiner or examiners as to whether or not they examined the various working places. Laxity in this respect may be and undoubtedly has been attended with fatal results. A proof of this is shown in an explosion which took place, on Monday, at the Hoddlesden Colliery, near Darwen, Lancashire, where a man was killed by an explosion which took place shortly after the men commenced work. It was the duty of a deputy or fireman, named JAMES TAYLOR, to examine the working places to see if there was gas in any of them; but on Monday morning it is alleged that he neglected to examine the place where the deceased, named WHEWELL, had to work. The fireman was brought before the magistrate at Darwen, on a charge of manslaughter, and remanded. It is seldom that a case of this sort is brought home to the guilty party, for the reason, as we have before stated, that there is no real check by which the laches of the official appointed to examine the miners' working places before they commence work can be detected. The mere fact of writing a statement in book really goes for nothing. It is, therefore, necessary that some legislative provision should be made by which the examination made by firemen could be tested or checked, so that the men should run no risk owing to the negligence of those who are appointed to perform a most important duty in connection with mining operations, and on whose faithful discharge of it or otherwise may depend the lives of hundreds of men. Were this done in all probability the number of fatal mining explosions would be less than they have been.

THE ANGLO-CANADIAN ASBESTOS COMPANY (Limited), is formed to take over as a going concern the freehold Asbestos properties called the Eureka and Emelie estates, containing about 325 acres about 70 miles from Quebec, but only 2 miles from a station on the Quebec Central Railway. The vendors are Messrs. Irwin, Hopper and Co., of Montreal, who, at Antwerp Exhibition this year distinguished themselves by obtaining for their manufactures the only Gold Medal awarded for Asbestos. It appears that trade in this mineral has only developed largely within the last five years, and, consequently, dealings in it have been confined to a few hands. In 1881, crude Canadian Asbestos of the first quality sold for 10*s.* per ton, but since that year it has steadily gone on advancing at the rate of 2*s.* per ton per annum, and it now is 17*s.* per ton. The capital now offered is 17,500 shares of 2*s.* each. The purchase-money is 35,000*l.*, of which 15,000*l.* is taken in shares, and the vendors express their readiness to extend the amount paid in shares to 30,000*l.* at the option of the directors. A dividend of 20 per cent. is anticipated. The Share List opens to-day and closes on Tuesday next.

NEW TERRAS MINE.—A full report of the annual meeting of this company appeared in our issue last week. It was a complete success. It will be seen by an advertisement in another page that tenders are at once invited for the erection of 100 heads of stamps and the sinking of the engine-shaft and other necessary work. There is every probability that before another annual meeting the directors will be enabled to show good profits, and declare a dividend. We learn with pleasure that since the meeting (such is the confidence the shareholders have in the mine and the executive) the whole of the capital required has been found and leaves a balance of some 3000*l.*, which the committee intend putting on one side as a reserve fund. The company appears to be directed by men who understand the advantage of keeping out of debt, and the agent has proved that he understands his work. In laying out the works every advantage has been taken of the natural position to economise labour and thus keep down the working expenses. All who have inspected the site agree there is tin of a most valuable character, and it has been proved by the parcels already sent to market. We wish the mine every success.

NEW CHILE GOLD.—Mine Captain's Report: The Cenciero No. 4 shaft is down 16 ft. below the 11 level, and has been sunk 14 ft. during this month. The lode in the bottom continues to be 4 ft. wide, but has not improved in quality since last report. We have again got the main footwall, and are now sinking the shaft upon it. The end of the 7 west drift is 76 ft. from Benchmark, and has lode 6 ft. 6 in. wide, of good milling quality. We have driven 21 ft. 6 in. during this month. The rock continues to be very hard, but we hope very shortly to hole this drift to the Potosi air-shaft. No. 8 west drift has been advanced 8 ft. 6 in. during this month, and is 80 ft. from Benchmark. Lode in the end is 8 ft. wide. We have done no work in the stopes in the back. No. 9 west drift is 81 from Benchmark, and has the lode in the end 3 ft. wide; quartz of fair quality. Have driven 12 ft. during this month. Stope in back is 250 ft. from shaft, and has stopped 11 ft. Lode in the breast about 3 ft. 6 in. wide; good milling quality, especially in the lower part of the stope. We have not done any work in No. 9 east drift, or in the stope in the back, during this month. No. 10, west drift, is 56 ft. from Benchmark, and has the lode in the end 1 ft. 6 in. wide; slightly broken up. We have advanced this drift 25 ft. during this month. The stope in the back is 84 ft. from shaft, and has been stopped 27 ft. Lode 4 ft. 6 in. wide; good milling quartz. No. 10, east drift, is 40 ft. from Benchmark, and has been driven 13 ft. The stope in the back is 112 ft. from shaft, and has been stopped 12 ft. during this month. Lode about 1 ft. 6 in. wide; fair milling quartz. No. 11, west drift, has been advanced 20 ft. from shaft. The end has the lode 4 ft. wide. The stope in the back is 16 ft. from shaft and 80 ft. high. As the shaft was being sunk upon the lode during the previous management we were obliged to stop the sides of the shaft in bluestone; but we have cut through the lode in the stope about 5 ft. wide, of very good appearance. No. 11, east drift, has been advanced 18 ft. from shaft. The lode in the end 3 ft. wide, quartz of good quality. The stope in the back is 17 ft. from shaft. We have also cut through the lode in this stope about 4 ft. 6 in. wide, also of good appearance. We are cutting out ground for construction of a plat shoot for No. 10 level. We are also working on the skip-road, and when the repairs will be complete there will be nothing to prevent the proper working of the skip with the new engine. During the month we have raised 2625 tons quartz (net) and there are about 150 to 220 tons broken throughout the mine.—No. 5 Shaft: The shaft is down 105 ft. below the 1st level; sunk 43 ft. during this month. We holed into the old workings on the 18th inst. The stope is timbered close down to bottom. The 1st east drift is 33 ft. from shaft, driven 6 ft. during month. Lode in the end 5 ft. wide, quartz of good appearance.

The directors of the Arniston Coal Company (Limited) report that the result of the company's business for the year to September 30, 1885, was satisfactory. After providing for all charges on revenue, and writing off 4000*l.* for depreciation, and charging to revenue, the amount expended on underground workings and reconstructing miners' houses, and brickwork, machinery, and kilns, there arises a balance of profit on the year's business, thus:—Profit, 9351*l.* 7*s.* 1*d.*; deduct expenses of general management, 643*l.* 12*s.* 9*d.*; interests, 130*l.* 15*s.* 8*d.*—1949*l.* 8*s.* 5*d.*—7401*l.* 18*s.* 8*d.*; which, added to the undivided profit brought from last account of 916*l.* 13*s.* 8*d.*, gives a total balance of 8318*l.* 12*s.* 4*d.* The increased profit upon the company's business during the past year is due to the unusually large sale of Cannel coal, arising from exceptional circumstances, on the continuance of which it would not be prudent to rely. The directors propose that a dividend of 8*s.* per share should now be paid, which, along with the interim dividend of 8*s.* per share paid at the term of Witsunday last, makes a dividend for the past year at the rate of 10 per cent. The directors further propose that a bonus of 4*s.* per share should also now be paid. This will leave a balance of the sum of 1818*l.* 12*s.* 4*d.* to be carried forward to next year's account. It is proposed that the dividend and bonus be paid (free of income tax) on the 11th prox. During the year six additional houses at Hunterfield have been reconstructed. No expenditure has been added to capital account during the year. In terms of the Articles of Association one of the directors retires on this occasion. Mr. Dundas, Chairman of the company, retires, and is eligible for re-election. The auditors for the ensuing year fall to be appointed; Messrs. Howden and Molleson, C.A., the present auditors, are eligible for re-election.

The London, Chatham, and Dover Railway have concluded a contract with Messrs. John Elder and Co., of Govan, for the construction of a paddle steamer, 320 ft. by 44 ft. overall. The engines are to develop 5000-horse power, and the vessel will be larger and faster than any at present running between this country and the Continent.

At a meeting of the Bank of New South Wales, held at Sydney, on Monday, a dividend was declared at the rate of 15 per cent., together with a bonus of 2*s.* per cent. per annum, or 8*s.* per cent. for the half-year ended September 30, and 10,000*l.* was added to the reserve fund, which now stands at 580,000*l.* The dividend upon the capital upon the London register will be payable at the office, 64 Old Broad-street, on and after the 10th instant.

THE secretary of the Montana Company (Limited) reports that by telegram received from the managing director at the mine, the yield for the month of October was \$71,200—exclusive of concentrations and of ore sent to smelters, account sales of which had not been received at Marysville at date of cabling. The total expenses for the month were \$32,700. He proposes to remit \$75,000, which the directors assume include the \$30,000 for September month, referred to in circular of October 6, but which the late manager had not remitted at the date of the managing director's arrival at Marysville.

Mining Correspondence.

BRITISH MINES.

BEDFORD UNITED.—H. Trusler, November 3: North Lode: The lode in the rise and slope at the 133 east is worth 6d. per fathom. —Mo Callan's Shaft, Bridge Lode: In the 80 west the lode is a little improved yielding stones of ore and muriatic. In the 75 west the lode is a little disordered by a crossing; it appears to be only temporary. In the 62 east the lode is 3½ ft. wide, producing saving work for ore and muriatic. The lode in the 62 west is looking a little more kindly than for some time past. The several stope and pitches throughout the mine are without change. We sampled 73 tons of ore of good average quality. The machinery is working well throughout, the whole being in good order.

BLUE HILLS.—William Rich, S. Bennett, November 3: The lode in the rise in the back of the 80 carries good stones of tin and copper. The 80 end, east of engine shaft, yields a little tin. We are putting out a cross cut at the 80 with the view to intersect the north lode. The lode in the 65 end, driving east of Leitcher's shaft, is worth 15d. per fathom. The slope in the back of this level is also worth 15d. per fathom. The slope in the back of the 65, east of rise, is worth 10d. per fathom. We have intersected the north wall of the lode in the 50 cross cut south. There is a small leader of tin in the end, and we hope to cut through the lode in a few days. The lode in the slope, in the back of the 50, is worth 10d. per fathom. The lode in the shaft below the adit in the eastern part of the set carries good stones of tin.

CARN CAMBORNE.—W. C. Vivian, November 4: In the 105 fathom level, west of cross course, west of engine shaft, the south lode has increased in size being now 2 ft. wide, and spragged with yellow copper throughout. Whilst the granite which it is now traversing has become softer. This may indicate further improvement.

CASHWELL.—John Peart, October 31: The heading going west in copper lode continues about the same for ore, but much harder, the vein varies from 2 to 4 ft. in width for 4 fathoms in height, and is worth 20 cts. of lead ore per fathom. The drift going west in the above stratum is improving there is a better vein and more ore; it is worth at present 8 cts. of ore per fathom. The rise from drift, top of copper haze east end, is now holed into the star limestone drift, and will commence to drive the drift under the star limestone next week in whole ground. The heading in slate haze east end is only poor, the vein at present is over hard for carrying much ore, but may soon change, it is worth 10 cts. of ore per fathom. We have sampled this week 30 tons of lead ore for sale on the 4th November next.

COED-Y-FEDW AND PANT-Y-BUARTH LEAD.—R. Prince, November 5: You will, I am sure, be pleased to hear that we are getting a very encouraging yield of both blende and lead ore from the sump below the 112, a yield of which there is good reason for believing will go on increasing. In the 112, west Cefn Bychan lode, the blende and calamine appear to be giving place to lead. The forebreast to-day shows a rib of lead ore in the roof about 3 in. wide, nearly solid. The 90, west on the Pant-y-Buarth lode, has also improved for ore since my last report, and here also a further and decided improvement may, I am convinced, be relied upon. No. 3 stope in the level has a very nice show of lead.

CAVEN MOOR UNITED LEAD.—David Williams, November 5: The main cross cut from Blackwill adit level has been extended 3 fms. north upon the course of the north and south lode, which continues to improve as we approach the main lode in advance, and is chiefly composed of calcareous, full of small cavities lined with blende ore, and letting out much water. We feel very confident that a good course of ore will be met with at the junction of these lodes, independent of the rich ore ground left standing in the flat lode, which will be drained and laid open for development by this cross cut. The main lode in Gill shaft is 7½ ft. wide, its component parts being barytes and gossan, intermixed with branches of lead ore, worth 32 cts. per fathom. Surface dressing operations are proceeded with as fast as the weather will permit, and on the whole the mine continues to open out to my entire satisfaction.

DERESBY.—John Roberts, William Sandoe, November 4: Since the last monthly report we have been unable to do anything in the sump on the hanging at No. 6 on account of the water, as we then reported. The water is draining slowly, and we shall return to it the moment it is drained. We have sunk the new shaft 1 fm. deeper through a very nice lode, which towards the hanging side of the shaft has much improved. We are now stopping down the south end of the shaft, it being very convenient for working, and will enable us to sooner to get a parcel of lead for sale. The north end of the shaft is not so valuable, there being a poorish bar of ground between the shaft—better lode north. The lode will produce about 2 tons to the fathom. The Gora shaft is down nearly 2 fms.; in the past week the men have been fixing the cistern and the lift from No. 5. They have fixed in the cistern and also fixed the tackle, and are now in a fair way of sinking, and we hope in two months they will get down the 10 fms. 3 ft. The tribute pitch at Fuchas is looking much the same as it has for months past.

DEVON GREAT CONSOLS.—Isaac Richards, November 5: Wheal Maria: In the eastern shaft, sinking below the 12 fathom level on the Capel Tor lode, the ground is favourable for exploration, and very congenial for the production of mineral. In the 12 fathom level, east of the eastern shaft, on the Capel Tor lode, the lode is from 3 to 4 ft. wide, of a promising character, and is yielding a little copper and muriatic ore. —Wheal Emma, Railway Shaft, New South Lode: In the 220 fathom level west, on the south part of the lode, the lode so far as taken down continues to yield small quantities of copper and tin ore, and 1 ton of muriatic per fathom. —Watson's: At the engine-shaft the men are engaged cutting trip plat at the 124 fathom level, which we hope to complete in about a week from this date, when sinking will again be resumed. No lode having been taken down at any of the other points of operation since last report, there is no alteration to advise to day.

DRAKEWALLS UNITED.—Thomas Gregory, November 5: The shaftmen continue to make fair progress in sinking the engine-shaft below the 102. The cross-course named in my late report is now fairly in the shaft; it is composed of quartz, felspar, carbonates of iron, wolfram, and some fair class of ore; if this cross-course continues down in its present form it will be of advantage in driving out north to the Great North lode. —North Lode: In order to reduce the costs all round we have taken the men from the 50 ends on this lode and put them to sink a winze in the bottom of the same level a little west of the cross-cut. The lode in the winze together with two branches are 15 in. wide, producing some fair class tinstone, with wolfram and mica. This winze will be required to prove the value and underlie of the lode as we go down; it appears now almost perpendicular. The strata (klasses) is very good, and at present free of water. We believe the engine-shaft is taking off the water from the ground north. To-day the best bit of tinstone seen in the shaft has been drawn from the extreme bottom, too late, however, to be sent you this morning.

EAST BLUE HILLS.—S. Bennett, W. K. Mitchell, November 4: The ground in the shaft sinking below the 20 continues much the same as for weeks past. In the 20 west end the lode is 3 ft. wide, and worth 5d. per fathom. In the east end at this level the lode is 1 foot wide, and worth about 4d. per fathom. In the 10 east end the lode is 1½ to 2 ft. wide, containing both copper and muriatic mixed with tin throughout, and worth 7d. to 8d. per fathom. The presence of copper looks well at this point, and indicates the top of another deposit of tin. The stope in the back of the 20 are worth respectively 6d. and 20d. per fathom.

GAWTON.—George Rowe, November 2: There is no change in the size or value of the lode in the 117 east since last reported. The lode in the slope in the back of this level is yielding 8 tons of muriatic per fathom. In the 105 east the lode continues to show an improved appearance, and will yield 12 tons of muriatic per fathom, with good stones of ore. No. 1 stope in the back of this level will yield 3 tons of muriatic per fathom. The lode in the 95 east is fully 8 ft. wide, and yielding 18 tons of muriatic. The slope in the bottom of this level is yielding 7 tons of muriatic per fathom. No. 1 stope in the back of the same level will yield 6 tons of muriatic per fathom. No. 2 stope will yield 8 tons of muriatic per fathom. No. 3 stope will yield 10 tons of muriatic per fathom. The slope in the bottom of the 70, west of shaft, is yielding 9 tons of muriatic per fathom. The slope in the back of the 70, east of shaft, will yield 9 tons of muriatic per fathom.

GREEN HURTH.—James Polglase, October 31: The slope in the back of the bottom level, south of winze, is worth 12 tons per fathom. The slope in back of the bottom level, north of shaft, is worth 3 tons per fathom. The 44 fathom level is looking better, and expect a further improvement at an early date. No. 1 stope in back of the 44 is worth 1 ton per fathom. No. 2 stope in the back of the 44 fathom level is worth 2 tons per fathom. The 30 fathom level end is worth 10 tons per fathom. The winze below the 30 fathom level is poor. Nos. 1, 2, 3, and 4 stope in the back of the Middle level are worth from 7 to 8 tons per fathom. In the adit level, north of new footway, the lode is disordered. We have commenced sinking below the adit level east, and shall soon see what it is like. Dressing going on well.

HARDSHINS.—Manager, October 30: The vein in forehead is still very good, but there is not so much ore in it this morning, it is, however, much the same in width—2 ft. 6 in. The men in the stopes behind the forehead are getting some splendid work. There is also a nice heap of ore laid down in the bingstated, and the washing-place is being put in order.

HEALEYFIELD.—John Trelease, October 30: During the week we have been pumping the water out of the Whitwell shaft and fixing in the pumps; we are also timbering parts that are rather heavy, owing to the water standing so long in the shaft. As soon as this is done we will commence sinking, and carry it on with all possible speed. The Whitwell engine is working very satisfactorily, and keeping the water well under. It has been decided to stop all mining operations in the Grindstone Hill, and work full time in sinking the shaft. We have four men timbering the stopes in the Grindstone Hill and repairing the level. All surface work going on satisfactorily.

HOLYWELL DISTRICT LEAD.—R. Rowlands, November 5: New lode is giving evidence of freeing itself from the influence of the east and west; the former is gradually getting more defined and stronger. The black limestone is disappearing, and there is a nice mixture of ore on the hanging side; altogether there is a marked improvement at this point. The important communication between Nos. 1 and 2 cross-cuts will, I expect, take place to-morrow; and when this is complete my idea is to place the men to drive eastwards on the hanging side of the lode commencing in No. 2 cross cut, where there are strong indications of ore existing. No. 3 cross cut is without change, but the tribute pitch is improving. The yield to-day is from 10 to 12 cts. per fathom.

KILLIFIRTH.—John Mitchell, Joseph Tamlyn, November 5: There is no change in any of our bargains calling for any special remark since we last reported on them. We are forcing on the 90 south as fast as we can, but have not yet the lode yet.

MELLANEAR COPPER.—John Gilbert, November 4: The lode in the 110 fm. level, west Gundry's shaft, is 4 ft. wide, yielding 2 tons of copper ore per fathom, and letting out an increased quantity of water, and looking promising for further improvement. The part of the lode carrying in the 130, west of shaft, on the south part is 6 ft. wide, and worth for tin 7d. per fathom, but there is more lode standing in the north side of the level, that we have put the men to cut through to ascertain its value. In the 130 east of shaft (on the south part) the lode is a little better, yielding 3 tons of copper ore per fathom, and presenting a very promising appearance. The lode in Gundry's engine shaft to sink below the 130 is 5 ft. wide, yielding some saving work for muriatic and blende, and occasional stones of rich copper ore. The 70 cross cut, north of main lode, east of Gundry's shaft is suspended. It has been driven a considerable distance beyond, where we expected to meet with the lode. The lode in the 120, east of shaft, on the main part is 3 ft. wide, yielding a little copper and blende. It was also thought advisable to stop this end, as, judging from the levels above there is not much chance of meeting with an improvement. Nearly all our stope are now set on

tribute, as we believe this system will pay best with the present low price of copper. There are now in the tribute department, 65 men working 24 pitches at an average tribute of 1s. 6d. in 1f. Since the heavy rains the water has increased a little underground, but all the machinery is in good working order. The rise in the back of the 130, east of shaft, is suspended, and the ground set to four men on tribute, at 10s. in 1f.

MID-DEVON COPPER.—James Neill, October 31: Surface: Rain almost daily, which is increasing influx to main shaft, but has not got to any serious extent. Machinery copes with it easily. In A shaft the 98 cross-cut south is extended, by nine men with boring machines, 5 ft. 3 in. Total distance from the shaft, 5 fms. 2 ft. The rock in the end is much harder, composed chiefly of capel and hornstone, which for the past three days has seriously impeded our progress, but except it is only one of those hard bars that we occasionally meet with in this stratification. Trust that a few days will take us through it. The end is also flowing with water, which also tends to hinder. In C shaft the stope in the back of the cross-cut north from 50 east, worked by three men, has improved, and now yields 3½ tons to the cubic fathom. The strata surrounding it is chiefly composed of garnet, chlorite, quartz, and hornstone favourable for the production of ore.

NEW CARADON.—N. Richards, November 4: The lode in the 60 fm. level, both east and west, is about the same as reported on last week—large and kindly, and at times producing stones of copper ore.

NEW WEST CARADON.—N. Richards, November 4: There is no particular change in the lode at the 35. The lode east in the winze sinking below this level will yield from 1 to 1½ tons of copper ore per fathom. This lode in the rise, west of cross-course, will yield 1 ton of ore per fathom.

NEW TERRAS.—Richard Eade, November 5: Our men are busy getting out the ground for additional dressing floors and the boiler house. They are also making a roadway for carts with the coal, &c., to get to the new engine house. The engineers are making fair progress with their work. We are also making provision for the fixing of double cage rods in the engine shaft to enable us to deal with 100 tons of tinstuff daily.

NORTH BUSY.—John James, November 5: In the 15 driving east the lode is more defined and harder, but an increase of water coming out of end. We are daily expecting an improvement here. Nothing new in son: cross cut. We find by opening on the lode at surface that it is 2 ft. wide, producing a little tin and arsenical muriatic, a very kindly lode for the depth, 10 ft. So far as seen it is perpendicular; this will give us about 4 fms. more to drive cross cut, which will take us from three to four weeks.

NORTH TRESKERBY.—Pryor and Son, November 4: We have nothing particular now to report on since our last week's report, there being no change worthy of notice in the underground bargains with the exception of No. 1 lode in the deep adit level, west of the county cross cut, where the lode is now 3 ft. wide, and worth fully 25d. per fathom. All surface work is being carried on just as usual.

NORTH GREEN HURTH.—James Polglase, October 29: The vein in the south end is not looking quite so well this week. The vein in the east level on No. 1 vein is wide, and a strong looking lode.

PENEGARREG SILVER-LEAD.—Joseph Evans, November 4: Since my last report the stope in No. 1 south, above adit, has made satisfactory progress, and we have a large pile of splendid ore for the dresser. The 10, above adit, is holding out well; the stope is worth over 20 cts. to the fathom of rich ore. As soon as the shaft and winze are unwatered, we shall have a large extent of new stope ground 12 fms. below adit, very productive.

PHENIX AND WEST PHENIX UNITED.—John Truscott, November 4: Setting Report: Old Sump Shaft: The 150 fm. level to drive west of this shaft, at 32 ft. per fathom, the lode is worth 6d. per fathom. The 80, to drive west of this, at 47 ft. per fathom, the lode at present being unproductive. No. 1 stope, in back of this level, at 47, 10s. per fathom, is worth 15d. per fathom; No. 2 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 3 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 4 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 5 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 6 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 7 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 8 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 9 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 10 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 11 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 12 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 13 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 14 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 15 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 16 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 17 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 18 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 19 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 20 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 21 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 22 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 23 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 24 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 25 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 26 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 27 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 28 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 29 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 30 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 31 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 32 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 33 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 34 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 35 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 36 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 37 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 38 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 39 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 40 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 41 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 42 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 43 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 44 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 45 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 46 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 47 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 48 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 49 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 50 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 51 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 52 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 53 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 54 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 55 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 56 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 57 stope, in back of this level, at 47, 10s. per fathom, is worth 12d. per fathom; No. 58 stope, in back of this level, at 47, 10s. per

is going forward in a nice lode worth 20*l.* per fathom. There is no other change in the bargains, all of which are fully up to former reports. We shall sell to-morrow our usual quantity of tin.—P.S. Tin sold on Thursday, 5th inst., for the fortnight 24 tons 11 cwt., 0 qr., 3 lbs., realising 1311*l.* 1s.

WHEAL METAL AND FLOW.—William Argall, S. P. Curtis, November 4: The Metal lode in Watson's shaft is just of the same character as last reported. During the past three days we have not been able to do anything in the bottom of the shaft owing to the very heavy floods, and the large amount of water of going through the adit level. This will be overcome by dropping another lift. By the end of the week we hope to put the 10 cleaning frames to work. The stamps and pulverisers are working very fairly, and we are pushing forward the dressing appliances as fast as possible, so as to place us in a good position.

WHEEL CHEBO.—Henry Phillips, P. D. Holman, November 3: The lode in 15*f.* fathoms level driving west of new shaft is looking a little better; it contains friable spar and arsenical muriatic, intermixed with copper ore. It has a very strong resemblance to the lode in the level above (14*f.* fathom level west) before we came into the one. There is no material change in the different points in the operation since last reported. Our stoping ground will yield in the aggregate 30 tons of copper ore and 21 tons of muriatic per fathom.

FOREIGN MINES.

CHONTALES.—September 15: Owing to the discontinuance of the contract with the English Government for carrying the mails from Greytown, the services for the past three months have been very irregular, but this is likely to be improved in the future, as the Royal Mail Company state that it is their intention to send a steamer to Greytown once a month as hitherto. The acting manager reports: During the past month at San Antonio the main upper level was driven 13 varas; the lode in the end is about 3*f.* wide, but is still hard and poor. We also put a stop in the back of the level 22*f.* to prove the lode, which is about 5*f.* wide, gives a fair sample of gold, and by appearance ought to give some good stoping ground. In the western rise we rose 14 varas, the lode became so hard and small that I thought it better to change its direction, and by turning it south out a lode 3*f.* wide, containing gold. Owing to the hardness of the ground here and in the level going west of the ventilation rise we have not been able to communicate, but hope to do so in a few days. The level going west of the ventilation rise progress 14 varas; the lode is still poor. In the eastern workings we have communicated the No. 3 level with the ladder road rise; the lode is 6*f.* wide, and produces payable quartz, but lies about 35*f.* south of the rise. The No. 2 level has been driven 7 varas; the lode is now about 3*f.* wide, but has fallen off in value. We also rose in the rise from the back of this level 4 varas and stopped 8*f.* The stamps crushed in the past month 500 tons of quartz, which produced 92 ozs. of gold, or yielding on an average 3*d.* tons 16*g.* per ton. The cost at the mines for the month is not given.

COLOMBIAN HYDRAULIC.—A. E. Oakes, September 23: Run No. 117: This run was carried on partly in the new Platiña Mine and partly in the main sluice, and it was my intention to clean up both on the 17th; but a break in the old ditch has prevented my cleaning up. New Platiña at all, so the gold must remain in the sluice till some future time. In the main sluice I have cleared up 30*f.* as follows:—From the head of the sluice to its junction with the tailings from New Platiña, 2837*t.* 7*g.* from there about half the above distance downwards 5549*t.* which, with \$61 of bought gold, has produced a bar worth \$1446*t.* 70, which, after deducting the month's cost, \$1053*t.* 70, leaves a profit of \$395, and this without the new Platiña gold, which will be all profit. We are in such a state of destitution for want of stores that I am compelled to abandon the old ditch for the present, and this morning in a violent storm the new ditch has broken, so we are now without water in the mine.

DEVALA MOYAR GOLD.—J. Williams, October 12: We have taken down on the tramway 800*f.* have been added to the length, making in all 4500*f.* In another fortnight I hope to be advanced enough to make our first short pass, which will be a drop of fully 100*f.*, and as soon as convenient shall commence a trial from the bottom of this.—Salomon's Reef: The 600*f.* tunnel has two well defined walls, and the lode runs considerably more towards the perpendicular than were seen in any of the levels above; but, according to the washboard, it is still unproductive. Although without mineral, so far as we can ascertain, it has a promising appearance, and is fully 4*f.* wide, and is driving into unexplored ground, so that should anything be met with, the reef, no doubt, will be more compact, and the chances for its containing more gold. In the 500*f.* tunnel the lode retains its size of 5*f.*, and good progress is being made; but I do not see much alteration in the value of the quartz. In the 400*f.* tunnel the ground and the appearance of the quartz are very similar to the 500. These two levels are opening up a large quantity of stuff for the stamps; the ground being easy it can be worked very cheap. The 300 and the 200 are connected, and the 300 men will now be put to sink a winze in the bottom of this level. In the whole of this drive we have had the best show of gold on the washboard, and it is our intention to prove it deeper. I would mention that when we started this level it looked like a branch running away from the main part of the lodes, and this communication has proved it to be going in a different direction from the other tunnels. This is the reason for our putting a rise over to see if it extends to any great distance towards the surface. I find it is again split into branches into the rise, and I have put the men to follow the south one, which looks most inviting of the two. I hope to say more about this as development goes on. At the present time we have only a single level driven through it, and this is not quite enough to enable me to speak with precision.—Harewood Reef: I am pleased to say we have extended the level far enough at the 70*f.* level to the purpose of sinking on the next lift, and have cut sufficient ground for a lode. I shall now put in a penthouse for the safety of the men, after which I hope to sink without further delay to the tunnel below. I expect in a short time to reach the bottom of the old workings, particulars of which shall be sent you. We have a few hands working at the mill stacking wood and cutting down the jungle, to prevent fire during the dry season.

DON PEDRO G.L.D.—September: Exploratory operations have been extended from Walter's level 32*f.* north, and 20*f.* eastward, and bunches of fair quality work at times met with generally in the roof or over collapsed old workings, and in the present face of the north drive a moderately fair size and quality lode exists, but we cannot speak as yet definitely regarding its consistency owing to the proximity of old works. During the latter part of the month the above works have all been held in abeyance, and the forces engaged to open drains for the security of important points against damage by large freshets of water during the wet season, which is now approaching.—Corrego: The deposit of sand under, and extending up the ravine beyond the old aductio, continues to be traced as stated in previous reports.—Gordon's Shaft: Several metal supports (dividing posts) near the entrance have been altered to required position for working of the power-transmitting ropes to operate future pumping machinery, and the laying of the permanent double tramway rails commenced. Two drives have been started from the bottom of the shaft to form parts of the adit level, one northerly for connecting with the old inclined shaft has been advanced through rather hard picking ground 27*f.* and the other southward to intercept the old adit level has been extended 15 feet, mostly in hard sandstone, some requiring to be blasted, while small portions being soft necessitates close timber work. The horse-whim is being removed to site prepared over the entrance of Gordon's shaft, and appliances are being attached thereto for operating the small California pump to admit of sinking the shaft, which will be resumed on completion of the above works.—Adit Level: 30*f.* has been reopened, and temporarily secured during the month, the face being turned in the direction of the drive southward from Gordon's shaft is now almost beyond the influence of the collapsed ground, broken timbers, &c., and although the forces have latterly been released for applying to more immediately urgent work, it is hoped no material falling off in the drift will occur.—Pumping Machinery: The tunnel for turbine tail pipe race has been advanced 38*f.* and being very nearly complete, the pit for tail pipe will early be commenced.

HORNACHOS SILVER-LEAD.—Report for September: Afortunada: The 5th level was driven south of shaft 4 metres 20 centimetres in a lode yielding 7*cwt.* of silver-lead ore per fathom. The same level was driven north 2 metres 10 centimetres, the lode producing 2*cwt.* per fathom. The 6th level was extended south 4 metres 50 centimetres in low quality paying ground, and north 3 metres in a lode yielding 5*cwt.* per fathom; in this level there are four stops at work, the lode varying in yield from 2*cwt.* to 17*cwt.* of silver-lead ore per fathom. A stop in the 5th level yields 6*cwt.* per fathom, and one in the 6th level yielded a large quantity of ore from a lode valued at 9*cwt.* per fathom. A stop in the 3rd level south yielded 4*cwt.* per fathom, and one in the 2nd level north gave a production of 11*cwt.* per fathom. The average yield of the lode at all points of operation has been 12*cwt.* of silver-lead ore per fathom. Advices are received of the arrival in Liverpool of 20 tons of ore, and a further consignment is reported to be on the road.

INDIAN CONSOLIDATED GOLD.—Mr. Lyon, September 30: Phoenix Section: No. 1 Level, North Drive: Distances driven during month of September 17*f.*, making total length driven from cross-cut 276*f.*—No. 2 Level, North Drive: Distance driven during month of September 12*f.*, making total length driven from cross-cut 510*f.* A report has been received from Mr. Lyon giving the result of crushing 37 tons of quartz, which yielded a total of 129*oz.* 8*dwt.* of gold, or at the rate of 4*dwt.* 9*g.* of gold per ton of quartz.

—October 12: I shall take the opportunity during my next visit to Colar, which will be in a week's time, to deliver for shipment to you 320*oz.* 11*dwt.* of gold, obtained from campaigns Nos. 8, 9, 10, 11, and 12. On March 18 last I forwarded to you 33*oz.* 12*dwt.* of melted gold, the produce of campaign No. 7, so that you will have received (when you get the consignment I am now about to despatch) a total of 354*oz.* 3*dwt.* of gold. I feel perfectly satisfied of being able to get at least 400*oz.* more gold by the close of the year. It will be seen that I shall cover over half a year's expenditure by six months' crushing. I have now held down the foundations of the engine in the battery, and there is no reason why we should not crush continuously next year, using steam in the dry weather provided the stone in the upper slopes remains as good and plentiful as at present, for you are aware that the extra cost of crushing by steam amounts to only 2*annas* per ton. I started the battery again on the same staff on the 10th A.M., and I hope to keep the full battery going constantly to the end of the month. The stone in stopes, especially on south of the rise, continues its good appearance.

—Captain Sheridan, October 9: Main Shaft: During the fortnight we have been busy dividing and timbering up the ground sunk and preparing for the working of the rock-drills, so the cooies were only able to work part of the time in the bottom of the shaft they sunk about 2*f.*, making a total of 82*f.* from surface.—No. 4 Shaft: The drive south on the formation mentioned in my last report has been extended 11*f.*, making a total of 33*f.* from shaft: the stone is about 3*f.* wide. I shall push this drive on towards the point where the old workings were found as quickly as possible.—Machinery: All the machinery is working well, and I will have the drills in main shaft in a day or two; we are putting down the air-pipes to-day.

—G. J. Bawden: Air compressor: Since my last report the air-compressor has been started, and does its work most satisfactorily; but nothing can be said this time of the boring machines.—No. 3 Shaft: The engine at this shaft continues to do its work most excellently, and is rapidly draining the flood of water which found its way into the shaft this week.

KOHINOOR AND DONALDSON CONSOLIDATED.—The manager writes under date of October 15 as follows:—Work at the Donaldson is progressing regularly, and with the usual number of men. The stopes at No. 3 having fallen off somewhat, we placed some of the men in the stopes of No. 2, lately worked on tribute, where we have some better grade milling ore. The vein in these stopes will average 2*f.*, and the yield about 10 tons per fathom. At No. 3 the vein is fully 4*f.* wide, and at the shaft we have about 4*f.* of ore. Alter-

gether the output is keeping the 25 stamps at work. We have not yet sent down any ore from the No. 2 stopes, and we have underground over 100 tons ready to send down as soon as the incline is completed, which will be at the end of this week. At the Champion the 760 drift is now in 18*f.* from the shaft, and we expect daily to strike the ore body. The winze in the bottom of the 680 is opening up good stoping ground, worth 6 tons of milling and 1 ton of smelting ore per fathom. The 680 west drift is progressing favourably. It has met with some fair grade ore; but the main shoot is not yet reached. At the 520 the stopes are much improved, and there is now 4*f.* of ore, which makes good milling stuff. The first batch will be sent down this week. We expect good returns. The output from the mill up to the present is 242-60 tons, yielding 72*oz.* 8*dwt.* 20*gr.* of gold. As soon as the ore bodies are opened out by the 680 and 760 levels, we shall resume stoping on a good scale. It is well to point out the desirability of putting out cross cuts at the Champion, both north and south, there being so many veins on either side, and some of considerable value. Others will form junctions with the Champion in depth, which in this particular district is favourable to the formation of ore bodies.

MYSORE GOLD.—B. D. Plummer, October 13: Plummer Shaft: The bottom of the shaft is free from the old workings, the rock is light-coloured schist, containing joints stained with iron. In the 173 south, on the west lode, the branches of quartz are mixed with debris; assay value 1*oz.* 19*dwt.* 4*gr.* In the 173 north, on the east lode, in No. 4 winze, the lode is 3*f.* wide; assay value 1*oz.* 6*dwt.* 3*gr.* In the 236, north of Taylor's shaft, in sinking the drawing shaft, the lode is 1*f.* 6*f.* wide; this is getting into the run of quartz dipping 72*oz.* 2*dwt.* 20*gr.* of gold. In the 236, north of Taylor's shaft, the lode is 5*f.* wide; assay value 4*oz.* 4*dwt.* 22*gr.* per ton. In the 236, south end, at Taylor's shaft, the lode is 2*f.* 6*f.* wide; assay value 4*oz.* 4*dwt.* 1*gr.* The lode is getting smaller in each end, but the quality has improved, I think the lode will soon open out wider again, especially in the south end. In the 236, south of Taylor's shaft, the stopes in the back of the level 4 varas and stopped 8*f.* The stamps crushed in the past month 500 tons of quartz, which produced 92 ozs. of gold, or yielding on an average 3*d.* tons 16*g.* per ton. The cost at the mines for the month is not given.

ORGANOS GOLD.—James G. Green, September 1: As under I beg to report progress at the mine: Work has been very much interfered with owing to the difficulty of obtaining funds, materials, and provisions, owing to the war. Fortunately there has been plenty of labour at cheap rates.—Mill Returns:

Tons stamped.	Ounces produced.	Per ton.
570	487-81	.84
Mineral treated in the Britten pans.	12	108-00
		9-00

Total..... 582 595-81 1-22

Estimated value, including premium of exchange, \$10,031-67*1/2*; estimated gold in tailings saved, but not treated, \$6000; estimated total, \$16,031-67*1/2*. The mineral was obtained as follows:—From Te Encuentro opencast and Nos. 1 and 2 levels, 525 tons; from Socorro Mine, 35 tons; from Constancia Mine, 20 tons; total, 552 tons. The 12 tons of very rich stuff, producing 9 ozs. per ton, worked in the Britten pans, was obtained from a gossan deposit in the back of the Te Encuentro lode eastward of all our underground work.

All our machinery is in first-class working order, but we are very short of stores and materials.—Mine and Underground Work: All underground and mine work has been pushed forward as much as circumstances have allowed. Our principal operations have been confined to Te Encuentro Mine. There is a good lode in the forepart of No. 1 level producing about 2 tons of 1*oz.* mineral per ton. This will be taken away by an opencast to surface. In the winze below No. 1 about 5*f.* behind the end, the lode is narrow, but consists of a solid branch of pyrites mixed with lead, and containing by assay 5*oz.* of gold per ton. This branch varied from 6*f.* to 2*f.* in width, only a small portion of which, however, is free gold, and obtainable with our present machinery. In the opencast the lode presents a very promising appearance, and we shall, no doubt, be able to obtain a good supply of mineral for our stamps for some time from this part of the mine. I have had cisterns put out across the lode long way in advance of our works westwards, and though the lodes does not show so wide at this point it is rich. In the No. 2 level we have driven 95*f.* through a very fine lode, quite as good in the end now as at any time; the mineral containing of pyrites and lead has varied from 5*f.* to 3*f.* wide, and assays up to

1*oz.* 6*dwt.* per ton. The lode seems to be improving as we advance, but owing to the hardness of the rock in which it is embedded our progress is slow. In the past month this level has yielded some rich carbonate ore; the lode averages 2*f.* 6*f.* in width, and is at present worth 1 ton of 10 per cent. copper ore per metre. If this continues to my height above the back of the level, we shall have driven up some good ground in good repair, so that in case a profitable discovery is made in the No. 11 level, we shall be able to resume driving without delay. In the back of the No. 11 level, No. 11 Level East of Jose's Shaft: This is now communicated with the No. 3 winze sunk below the No. 11 level.—No. 11 Level East of Jose's Shaft: The cross cut at this level was driven 1-60 metres at \$25 per metre. Since intersecting the lode a level has been extended 3 metres on its course, with, we are pleased to say, very encouraging results. The lode in the present end is 3*f.* 6*f.* in width, chiefly composed of grey killas with a branch of copper ore on the footwall which is producing 3*oz.* 4*dwt.* per ton of 14 per cent. copper ore per metre. We are watching this point with much interest, and are pushing it with the utmost activity, as we expect shortly, judging from the congenial appearance of the bottom of the No. 13 level, to open up some profitable ground.

—No. 13 Level East of Jose's Shaft: In consequence of the No. 11 level, which is extended 238-9*f.* metres east of the shaft, having passed through such a long run of poor ground we have deemed it advisable to suspend this drive, but we shall keep the level in good repair, so that in case a profitable discovery is made in the No. 11 level, we shall be able to resume driving without delay. In the back of the No. 12 Level East: This is now communicated with the No. 3 winze sunk below the No. 11 level.—No. 11 Level East of Jose's Shaft: The cross cut at this level was driven 1-60 metres at \$25 per metre, and the ore seems to be improving as we advance, but owing to the rock still continues very hard and unfavourable for progress.—No. 12 Level East of Jose's Shaft: In consequence of the No. 11 level, which is extended 238-9*f.* metres east of the shaft, having passed through such a long run of poor ground we have deemed it advisable to suspend this drive, but we shall keep the level in good repair, so that in case a profitable discovery is made in the No. 11 level, we shall be able to resume driving without delay. In the back of the No. 11 level.—No. 11 Level East of Jose's Shaft: This is now communicated with the No. 3 winze sunk below the No. 11 level.—No. 11 Level East of Jose's Shaft: The appearance of the lode at this point is much more favourable than we have seen it for some time past; it is now yielding 1*oz.* 10*dwt.* copper ore per metre, with kindly indications for further improvement. About 5 metres behind the present end we have driven a cross cut to the hanging wall, which shows the lode to be 6*f.* wide, and interspersed with outcrops, but too poor to be of any value. No. 11 level, west of Jose's shaft, has yielded in the month's driving 155 quintals of 12 per cent. copper ore. The lode seems to be improving as we advance, but owing to the hardness of the rock in which it is embedded our progress is slow. In the past month this level has yielded some rich carbonate ore; the lode averages 2*f.* 6*f.* in width, and is at present worth 1 ton of 10 per cent. copper ore per metre. If this continues to my height above the back of the level, we shall have driven up some good ground. In the No. 4 level, west of skip shaft, there is no alteration to advise. The tribute pitches throughout the mine are a little lower off in yield. We are stoking the back of the No. 13 level east at a point 30 metres from the shaft, where the lode is at present yielding 1 ton of 12 per cent. copper ore per metre. A stop in the back of the No. 11 level west has also been started by three men, which is producing 3*oz.* 10*dwt.* copper ore per metre. The returns for the month are as follows:—Pinta, 473 quintals 90 lbs.; Despinto, 2181 quintals 27 lbs.; total, 2555 quintals 17 lbs. The surface work is progressing with its usual regularity.

end after falling off somewhat during the month has again improved, although not to the same extent as when the changes for the worst took place. The vein continues hard and slow for driving; with rock-drills (shipped in August last) at work good speed could, however, be made. Good backs for subsequent stoping are being attained, as the surface rises very abruptly in advance of our drive.—Esperanza Shaft: This has been cleared, the depth being 9*f.* under the adit. No lower adit intersects this shaft, and we have, therefore, projected a deep adit to intersect the vein at about 10 or 12*f.* fms., under the present sole of the old Spanish shaft.—Esperanza Main Adit: This end is being driven by four miners. The vein is from 6 to 7*f.* in width from wall to wall, but the main leader is a branch of quartz 2*f.* in thickness, yielding pyrites, but not to value. As previously explained, the level is going towards the Spanish workings known to exist still further to the west.—Incidental Work: This comprises the laying of a tramroad in the Conflanza adit, the erection on the mine of a residence for the local manager, and the clearing of ground for the commencement of the deep adit, &c.—Delivery of Stores and Machinery: The stores in transport will be delivered on to the mine as fast as circumstances will permit upon arrival in Honda.

RUBY AND DUENDERBERG CONSOLIDATED.—October 11: Duenderberg: There are 10 tributaries at work, no change to report.—Lord Byron: The ground in the north drift from the bottom of the incline has been unusually hard during the week, but it is now in broken up ground, containing considerable iron, which will, no doubt, lead to the orebody, on which a winze is now being sunk from the level above. Progress this week 7*f.*, total 75*f.* from the shaft; the winze referred to above is being sunk at north end of No. 1 cave workings at

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5—Van 100 8 16 6 Sheldon, Bush, & Co.
—Homan Gravels 100 7 14 6 Walker, Parker, & Co.

BLEND E.
Date. Mines. Tons. Price per ton. Purchasers.
Oct. 24—Standard 50 £ 1 3 6 Vivian and Sons
Nov. 4—Pierre-Étienne 63 2 18 6 Dillwyn and Co.

BLACK TIN.
Date. Mines. Tons c. q. lb. Price per ton. Purchasers.
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—The Lovell 4 15 0 0 0 52 10 0 Redruth Co.

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of the shaft a bore has been put down 600 ft., making a vertical depth proved of over 3000 ft., but where the reefs are running nearly vertical we do not think a drill hole a sufficient test to abandon such a shaft. It appears that only by a narrow majority of shareholders was it determined to stop further operations. If this mine should ultimately prove to be a failure it will not be a discreditable one. The company, which has been reorganized twice, have carried on the works with skill and energy, and under economical management have expended about £130,000 in shaft sinking, driving levels, and the erection of one of the finest and most complete mining plants in the colony. It will, therefore, be a national misfortune to see such an enterprise abandoned for the want of more capital to develop the neighbourhood from the deepest level (2500 ft.) ever yet attained in an Australian gold mine. We think this an instance where the Government of Victoria should step in to render assistance to the Magdala or any new company that takes it up again to assist in prospecting the country east and west of this deep shaft sunk at such a cost to private enterprise. There is no comparison between the apparent failure of the Magdala and the absolute failure of numerous companies organised in London with the object of gold mining, but who instead of spending their money in development wasted it in extravagant purchases and ornamental and wasteful management. The energy displayed by the Magdala Company is creditable to all concerned, and to show the enterprise of Australian mining investors one large shareholder who has already paid in £10,000 is willing to go on further. Not only for the benefit of the Stawell district, but for the Australian colonies at large, we urgently advise efforts should be made to continue the development of this mine, say, from the 1600 ft., 2000 ft., and 2500 ft. levels by cross-cutting each, and with a distance of not less than half a mile on each side of the shaft. The Government would be acting wisely for the permanent benefit of the gold mining interest of the colony to assist the company, or to undertake the complete development of this mine after private enterprise has sunk the shaft to such a depth, either by advancing the necessary capital as a loan, or to ask Parliament to make a special grant for the purpose. The construction of these prospecting levels at the depths and to the distances indicated, if afterwards proved a failure, would be money wisely and judiciously spent in legitimately prospecting the Stawell gold field.

The Mining Market: Metals, Ores, &c.

METAL MARKET—LONDON, NOVEMBER 6, 1885.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Pig, Gms, I.O.B., Clyde	2 1 6	—	English, Ingot, I.O.B.	94 0	—
.. Scotch pig, No. 1 Gartshie	2 6	0	.. bars	93 0	0
.. Coalts	2 8	0	.. refined	93 0	0
.. Clyde	2 5	9	Australian	91 0	0
.. Govan	2 2	0	Hanca	nom.	—
Bars Welsh, f.o.b. Wales	4 7 6	4 10 0	Strait	30 17 6	91 0
.. in London	5 0 0	—	COPPER.	—	—
.. Stafford	5 15 0	—	Tough cake and Ingot.	42 10 0	44 3 0
.. in Tyne or Tees	4 15 0	—	Best selected	44 3 0	45 0
.. Swedish, London	9 0 0	9 10 0	Sheets and sheeting	43 0 0	52 0
Rails, Welsh, at works	4 10 0	—	Flat bottoms	55 0	0
Sheets, in London	7 0 0	—	Walloway	50 0	51 0
Plates, ship, in London	5 15 0	6 5 0	Burra, or P.C.C.	43 0	50 0
Hoops in London	5 15 0	6 0 0	Other brands .. nom.	45 0	48 0
Nail rods, in London	5 15 0	6 0 0	Chill bars, g.o.b.	39 3 0	39 5 0
STEEL.	—	—	QUICKSILVER.	—	—
English spring	6 0 0	19 0	Flasias, 757bs., war.	5 17 6	—
.. cast	25 0	0 45 0	Phosphor Bronze.	—	—
Swedish, kg.	12 0 0	—	Alloys II.	—	—
.. lag. ham.	12 10 0	—	VI. and VII.	115 0	—
.. Light, at works	5 15 0	6 0 0	XI.	95 0	—
LEAD.	—	—	Duro A, Duro H	90 0	—
English pig, common	11 0 0	11 12 6	ANTIMONY	£35 0	0 35 12
.. L.B.	11 12 6	11 17 6	BRASS.	—	—
.. sheet and bar	12 5 0	—	Wire	54	—
.. pipe	12 15 0	—	..	6 1/2	—
.. red	14 0 0	14 15 0	Sheets	5 1/2	—
.. white	16 0 0	16 0 0	Yel. met. sheath, & sheets	4 1/2	—
.. patent shot	14 5 0	—	TIN-PLATES.	—	—
Spanish	11 5 0	—	Charcoal, 1st quality	0 18 0	0 19 0
SPELTERS.	—	—	2nd quality	0 17 0	0 18 0
Silesian ordinary brand	6 0 14	5 0	Coke, 1st quality	0 15 0	0 16 0
.. special brands	14 5 0	14 7 6	.. 2nd quality	0 14 6	0 15 6
English Swansons	15 2 5	—	Canada, Staff, or Gia.	£ 17 6	0 2 0
Sheet zinc	17 0 0	17 5 0	.. at Liverpool	—	—
.. at the works, 1s, 1s, 6d per box	17 0 0	17 5 0	.. 10s. per ton less for ordinary; 10s. per ton less for Canada; IX s. per box more than 10d quoted above, and add 5s. for each X.	—	—
Terne-plates 2s. per box below tin-plates of similar brands.	—	—	Terne-plates 2s. per box below tin-plates of similar brands.	—	—

GENERAL REMARKS.

Our markets were at their best at the commencement of the week, when animation characterised the speculative feeling and buying of some metals, notably copper and iron, was more or less spirited. But the rally did not last long and was merely a passing fluctuation. It may be interesting to see what progress, or the reverse, has been made in metals since the year began. The following comparative figures will perhaps achieve this object and show in a concise form the present position of the three leading metals compared with the 1st January last:

Stocks.	Price.
1st Jan.	1st Nov.
Iron (in Connal's Storrs, Glasgow)	

that are known do not favour the idea; and, further, the Cleveland makers' returns up to the end of last month show that there has been an increase in stock this year of 105,000 tons. The returns of copper are also decidedly unfavourable, both for showing a great increase in the total stock and a heavy fall in values, and since the month began prices have further depreciated. In this metal there has not been the strength displayed that there has been amongst the holders of iron. As stocks have accumulated prices have receded, and even now, low as prices appear, there is evidently little or no confidence, and no stability in the tone. After the slightest advance sellers became very eager to effect sales, and the general impression that must be formed from the movements of this week is that operators for the most part anticipate still further reduced rates. There is every cause to be satisfied with the result of tin, in which the standards have been advanced. A light stock has not been increased, and an improved price has failed to encourage supplies. It is well worthy of note that in copper and iron, in which suppliers complain so loudly about the current quotations, supplies have increased, and are being maintained at the increased rate; but in tin, where good prices can be obtained, there is only a moderate supply, and no immediate prospect of increase. The figures given for tin are the only bright feature that can be recorded, and they appear strikingly in contrast with the statistics for the other metals. Statistics have, and must always have, an important influence upon prices; but still quotations are not regulated by them alone. Just now their influence is not such as could be desired. There is depression, and they add to that depression. There is a natural want of confidence in the immediate future, and they tend to increase that lack of confidence; and if supplies, where excessive, are not to be curtailed, holders may congratulate themselves if they are able to prevent more than a proportionate depreciation in prices in these dull, gloomy, and monotonous times.

COPPER.

On Saturday last this market assumed a much stronger tone, and the cash price of Chili bars was quoted up to 39*l.* 10*s.*, and forward to 40*l.*, the upward movement having its origin from the announcement that the total stocks had been reduced during October, and when this favourable feature was added to on Monday by the advice of the Chili charters for the latter half of last month as only 700 tons, the market for a short while became very excited, and the price continued to rally until 39*l.* 17*s.* 6*d.* had been paid for cash bars. Since which there has been a decidedly easier tone, business on Monday for cash being done at 39*l.* 15*s.*; on Tuesday at 39*l.* 10*s.*; on Wednesday at 39*l.* 7*s.* 6*d.*; yesterday at 39*l.* 5*s.*; and to-day 39*l.* 3*s.* 9*d.* The total visible stock on the 31st ult. was 56,547 tons, against 41,760 tons on the 31st October, 1884; but there was a decrease in the stock during last month of 618 tons, so that, whilst compared with this time last year the market looks most unfavourable, still there has been a turn for the better so far as statistics are concerned, and if this is continued some relief may be afforded the market. At the same time, no confidence exists in the future just at the moment, as is evidenced from the sudden decline which has again during the last few days characterised the market. The decrease in stocks arises from good deliveries, those last month amounting to 9454 tons, and not from diminished supply, which was 8836 tons in October. The improved deliveries, however, scarcely warrant the conclusion that the actual trade has been better for the arrivals of North American copper have continued heavy, and this, according to old contracts, is taken up by the smelters, and, therefore, reckoned in the deliveries, but it by no means follows that it has been consumed. The Chili exchange was advised on Monday as 25, and the price in Valparaiso 34*l.* 15*s.*, c and f Liverpool, and to this perhaps be attributed the sudden turn in the market. The light charters caused the price to rally, but when it was seen that the price in Valparaiso was so much lower than that which was then ruling here operators were not disposed to give support to the market, with the result that prices have again lost all they had picked up. Further the Chili exchange is much more favourable for the sending of supplies, and as charters have recently been light it has been thought quite possible that those which are to follow may show an opposite characteristic and prove heavy. But from whatever cause it may arise, the fact remains prices have been easy, the demand slack, particularly for regular and ordinary requirements, the tone depressed, the prospect cheerless, and a general absence of confidence. There are two striking but contrary interests at work. The "bear" party seem determined not to allow the price to advance beyond 40*l.*, and the "bulls" will not let it drop below 39*l.*, and for some weeks past now the price has been see-sawing between those two figures. First one party getting the better of the market than the other, and every feature, whether for or against the market, is prominently brought forward by one of these two parties, and it is remarkable that both the "bears" and the "bulls" lack confidence in their own movements, for no sooner is the slightest favourable feature advised than the market for a time becomes deserted by the "bears," and on the contrary after the smallest advance the "bulls" are apparently afraid to follow up what they have gained.

IRON.

With the exception of a little extra buying in Scotch pigs for speculative account, the iron market remains void of animation, and a general gloom prevails, and apparently no confidence in the future exists. Even in the Midland counties the trade is again assuming a slack and inanimate appearance, and in those works which indicate the slightest signs of briskness it arises from the execution of old contracts rather than new orders. The returns, however, which attract most attention at the present time are those received from Middlesborough, and it would be almost impossible for them to be more gloomy and unfavourable than what they are. Whether the prices quoted are considered, the condition of the demand, the rate of supply, the statistics of exports, they are all equally depressing in their influence upon the tone, and the strongest indication of the bad state of trade in that locality. As regards prices, they are decidedly easy, both for No. 3 and No. 4, and whilst makers nominally uphold their prices, second-hand lots are freely offered at considerably less money, and the reduced rates have seemingly no effect in stimulating the demand. The acceptance of these reduced rates arises solely from a want of business, and are known in many instances to result in heavy losses to the seller. The demand is restricted in all its branches; it is confined within the most narrow requirements. Buyers hold off as long as possible, since by so doing they are placed in a more favourable position to effect purchases. The tendency of prices is to go down, which naturally leads to buyers delaying their orders as much as possible. Then as regards the rate of supply, it is unquestionably too heavy, but since there is a reduced number of furnaces in blast there is the proof that the accumulating stock arises more from bad trade than increased production. The total production in Middlesborough last

month was 204,000 tons, of which 48,000 tons were hematites, and the balance Cleveland. The statistics are striking for showing an immense increase in the public stocks. The present total Cleveland stock stands at 443,609 tons, the increase last month being 14,000 tons, and the increase during the whole year amounting to 105,000 tons. The public stock last month was increased by 12,345 tons. Then the last matter to which we have referred as striking in the Middlesborough returns are the reduced exports. In September the shipments had been good, but last month they fell away again, and were about 7000 tons less than in the previous month. It is unnecessary to comment further on these returns. The figures are so striking that they speak for themselves, and we pass on to the Glasgow returns, but not to find any improvement there except in the prices which at the commencement of the week showed symptoms of rallying from extra speculative buying, but other characteristics are very similar to those at Middlesborough. There is the rapidly accumulating stocks, the increase in the public stock last month being 6039 tons. The production is too heavy for present requirements, though it is reduced in comparison with what it was some time back, there being five furnaces less in blast now than a year ago; the shipments continue on a very small scale, and the total for the year show a marked deficiency. It has also to be noted that, whilst there has been a little spurt in Scotch pigs, that is to say in mixed numbers, prices for makers' iron have been easier, by which it must be implied that the rally has not in any way been due to extra trade, but the mere covering of "bear" accounts, or a little increase in speculative buying. The Glasgow Warrant Market opened with a firmer tone on Monday, and a fair business was done up to 41*l.* 7*s.*, and on Tuesday the price continued to advance from 41*l.* 7*s.* to 41*l.* 11*s.*, but eased off slightly at the close to 41*l.* 10*s.*, and on Wednesday the quotation ranged between the latter figure and 41*l.* 9*s.*, and yesterday the tone was flat at 41*l.* 8*s.* to 41*l.* 6*d.*, and to-day, after opening at 41*l.* 5*s.*, the price receded to 41*l.* 4*s.*, and afterwards rallied to 41*l.* 6*d.* The shipments for last week were 7818 tons, against 8949 tons for the same week of last year, being a decrease of 1131 tons, and which makes the total shipments for the whole of this year 383,569 tons, against 472,492 tons for the same time of last year, and 558,789 tons for the similar period of 1883. There are still 91 furnaces in blast, and the public stock has been increased by 1358 tons, and now amounts to 633,181 tons, against 631,823 tons a week ago. The imports of Middlesborough pig-iron into Grangemouth last week were 4980 tons, against 5940 tons for the corresponding week of last year, or a decrease of 960 tons, and which makes a total increase for the whole of this year, compared with last, of 96,977 tons. At Middlesborough the market has again become extremely flat, and second-hand parcels of No. 3 are offering at 31*l.* 7*s.* to 31*l.* 9*s.*, whilst few makers are asking 32*s.*. The light shipments are a very unfavourable feature in the market, there being a reduction in deliveries last month, compared with the previous month, of 7000 tons. The price for forge iron is 30*s.* 9*d.* to 31*s.*, and warrants are quoted at 32*s.* 3*d.* to 32*s.* 6*d.* The public stock for the week shows an increase of 3980 tons. The manufactured trade is still dull, and the quotation for bars is 4*l.* 15*s.*, for angles 4*l.* 7*s.* 6*d.*, and ship-plates 4*l.* 12*s.* 6*d.*; whilst so bad is the general state of the trade that one or two of the manufacturers have stopped their works pending the settlement of the wages question. At Wolverhampton the market is less active, and specifications even of sheets do not come forward so freely, whilst some makers experience difficulty in keeping their mills going full time. Prices are in consequence easier, sheets offering at 6*l.* 15*s.*, and bars from 5*l.* 5*s.* to 7*l.* 10*s.*, according to quality. There is little doing in pigs, and the price for Northamptonshire is 38*s.*, for Derbyshire 39*s.* to 40*s.*, and for common Staffordshire 33*s.* to 35*s.* The trade at Birmingham remains inanimate, and there is little or no fresh feature to record.

TIN.

This market has remained fairly steady; but prices have not been particularly strong, although holders have been indisposed to make material concessions. The statistics for the month of October are, on the whole, fairly favourable, and show a reduction in the total visible stock of 757 tons; but the principal feature to comment upon is the improved deliveries. It is true they are not so large as they were in October last year, nevertheless they are much better—by some hundreds of tons—than they have been in any month since May last. Evidently, then, there has been a change in the right direction, and the volume of business transacted has been increased, a feature which holders still appear inclined to encourage by withholding their demands for the higher prices. There was a little spurt when the statistics were first known; but it has not been followed up, operators evidently preferring to do a fair business at a fair price rather than a smaller business at a higher price. Then as regards the comparisons of the deliveries with October in the two previous years the figures are rather interesting, those for last month being 1917 tons, against 2486 tons in October, 1884, and 2058 tons in October, 1883. At first sight this appears very favourable, but a little investigation is necessary. We say nothing of the almost chronic state of general trade, which in itself might be considered sufficient grounds for any reduction in deliveries, but we lay emphasis on the fact that the deliveries last month could not reasonably be expected to equal those of October last year, because the price was about 20*l.* per ton higher, and more particularly as the deliveries in October, 1884, were unusually heavy. The deliveries in October, 1883, it will be noticed, when prices were about on a par with what they are now, were much about the same as last month, for a few tons, more or less, need not be taken into consideration, but it is only right to notice that for years past the deliveries in October have been above the average of other months. Of course, it might be urged that considering the deliveries were so much better in October, 1884, at the reduced price than what they were last month at the advanced quotation, would it not be more in the interests of the trade to stimulate the demand just now by the acceptance of cheaper prices? That is a very reasonable query, and one which is frequently put forward, but still it is a matter of opinion, and, therefore, out of our province to reply to in these columns. We can only point out the facts as they exist. There is the evidence to show that at a reduced price extra business was done, but whether it would be transacted again under similar circumstances would have to be seen. But, at the same time, it must be noticed that demand is not the only matter which regulates prices. The question of supply has an equal bearing upon them, and supplies are not so heavy now as they were; in fact, the total public stock is smaller now than what it was a year ago, amounting to 13,171 tons, against 13,918 tons, and on this rests the cause of suppliers now being able to realise better prices than what they were a year ago. Whilst this is a characteristic feature of the market, there is no particular fear about future prices. The stock is not a heavy one, and is, therefore, easily managed, and whilst passing fluctuations must ever and anon occur, still there is no reason to anticipate anything but a continued and steady support to the market. The supplies last month were rather small, the shipments from Straits to London being 575 tons, from Australia to London 725 tons, Straits to America 50 tons, and Australia to America 100 tons. The stock of Banks in trading companies hands and afloat is 2833 tons. The total deliveries in London, Holland, and the United States for the

12 months ending 31st ult. were 33,045 tons, against 35,991 tons during the previous 12 months.

SPELTER continues quiet and inactive but steady, and we quote ordinaries at 14*l.* to 14*l.* 5*s.*, and specials at 14*l.* 5*s.* to 14*l.* 7*s.* 6*d.*

LEAD is steady at 11*l.* 5*s.* for Spanish, and 11*l.* 10*s.* to 11*l.* 12*s.* 6*d.* for English.

ANTIMONY is dull at 35*l.* to 35*l.* 10*s.*

STEEL is quiet, and without change in prices.

TIN-PLATES.—A fair business is being transacted, and prices on the whole remain tolerably firm, but without noteworthy change.

QUICKSILVER has become dull, and the price has fallen to 5*l.* 17*s.* 6*d.*

NOTICE.

MR. E. R. LOWE is not connected with the *Mining Journal*, and has no authority to represent it in any capacity.

The MINING SHARE MARKET has been decidedly firmer, with a better demand for shares than for some time past, and more particularly since it was known that the standards for tin had been put up in Cornwall 2*l.* per ton, and this has given an impetus to the market and caused a better demand for several tin shares. During the month it is said the tin in stock was reduced 757 tons, and if the demand continues at this rate we may look for a further advance. Blue Hills are quoted 8*s.* to 8*s.*; Carn Brea weak at 2*l.* to 3*s.*; Cook's Kitchen, 10 to 11*s.*, call paid; at the meeting a call of 1*l.* per share was made. Dolcoath, 7*s.* to 7*s.*; East Pool, 4*l.* to 4*l.*; East Blue Hills, 1*l.* to 1*l.*; Killifreth, 10*s.* to 12*s.* 6*d.*; New Kitty, 1*l.* to 1*l.*; Prince Royal, 4*s.* to 6*s.*; South Condurrow, 6*s.* to 6*s.*; South Crofty 7*s.* to 7*s.*; South Frances, 7*s.* to 7*s.*; Tincroft, 5*s.* to 6*s.*; West Basset, 2*s.* to 2*s.*; West Frances, 8*s.* to 8*s.*; West Kitty, 7*s.* to 8*s.*; Wheal Grenville, 1*l.* to 1*l.*; Wheal Kitty (St. Agnes), 10*s.* to 15*s.*; Wheal Metal and Flow, 4*s.* to 4*s.*; the returns here are already meeting the current costs of the mine, and will go on increasing as more pulverisers are erected. Wheal Bassett have been in better demand on the very satisfactory meeting to-day. Shares leave off 6*s.* to 7*s.* ex. div. of 2*s.* 6*d.* per share. Wheal Agars have also advanced to 18*s.* to 19*s.*; the dividend expected here is 7*s.* 6*d.* per share. Goodeore, 1*l.* to 1*l.*; Phoenix, 1*l.* to 1*l.*; Polberro, 2*s.* to 2*s.*; Treavaunance, 2*l.* to 2*l.*; West Godolphin, 1*l.* to 1*l.*; West Polbreen, 2*s.* 6*d.* to 15*s.*; Yeoland Consols, 4*s.* to 4*s.* prem.; Par Tin, 1*l.* to 1*l.*

COPPER remains quiet, and there is not much doing in copper mines; prices, therefore, are merely nominal. Bedford United, 5*s.* to 10*s.*; Devon Great Consols, 1*l.* to 1*l.*; Mellanear, 8*s.* to 8*s.*; Prince of Wales, 7*s.* to 9*s.*; West Seton, 4*s.* to 4*s.*; Wheal Crebor, 4*s.* to 4*s.*; the 15*s.* west is looking better, and contains friable spar and arsenical mica, mixed with copper ore, and has the appearance of the coarse ore seen in the level above. The value of the points in operation is 60 tons of copper ore and 21 tons of mica per fathom. West Caradon, 1*s.* to 3*s.*; New West Caradon, 2*s.* to 3*s.*; Ecton, 1*l.* to 1*l.*; the new ore dressing machinery commenced working yesterday. There is said to be abundance of ore broken.

LEAD is rather firmer, and the mines selling lead this week have obtained a better price for their ores. In shares very little has been done. Vans are quoted 1*l.* to 1*l.*; this mine sold 100 tons of ore this week at 8*s.* 16*s.* per ton, being a slight advance in price on the last sale; 100 tons of blonde are now for sale. The agent writes this week that he is very sanguine about the 15*s.* cross-cut, and of finding a new mine there. Great Laxey, 8*s.* to 9*s.*; Roman Gravels, 3*l.* to 4*l.*; Leadhills, 2*s.* to 2*s.*; D'Eresby, 1*l.* to 1*l.* (1*l.* paid); Craven Moor, 8*s.* to 9*s.*; Gwern-y-mynydd, 4*s.* to 4*s.*; Standard Lead, 1*l.* to 1*l.*

FOREIGN MINES are still dealt in largely, but chiefly in shares at a few shillings each. One or two such as Mysore, Richmond, and Organos have advanced. Almada, 3*s.* to 4*s.*; Birdseye Creek, 1*l.* to 1*l.*; Bratsberg, 6*s.* to 8*s.*; Callao Bis, 6*s.* 6*d.* to 7*s.* 6*d.*; Cape Copper, 2*l.* to 2*l.*; Chile Gold, 6*s.* to 7*s.*; Colorado, 2*l.* to 2*l.*; Colombian Hydraulic, 7*s.* 6*d.* to 10*s.*; Indian Consolidated, 8*s.* 6*d.* to 9*s.* 6*d.*; Copiapo, 2*l.* to 3*l.*; Frontino and Bolivia, 10*s.* to 12*s.* 6*d.*; Glenrock, 8*s.* to 7*s.*; La Plata, 4*s.* to 5*s.*; Mysore, 3*l.* to 3*l.*; Nundydroog, 15*s.* to 17*s.* 6*d.*; Orita, 19*s.* to 21*s.*; Panulcillo, 1*l.* to 2*l.*; Ruby, 7*s.* to 9*s.*; St. John del Rey, 6*s.* to 6*s.*; Santa Barbara, 1*l.* to 1*l.*; United Mexican, 2*l.* to 2*l.*; Organos shares have advanced from 7*s.* to 4*l.*; we are informed that the latest crushing of 582 tons yielded 595 ozs. of gold, and that two points in this mine yield a solid branch of mineral pyrites, lead, &c., worth of gold 4*l.* to 5*l.* per ton, and there appears to be a desire, and a natural one in the market, to learn when this information reached the office of the company. Devala Moyer, 6*s.* to 7*s.*; New Lisbon-Berlyn, 1*s.* to 2*s.*; Nine Reefs, 3*s.* 6*d.* to 4*s.* 6*d.*; New Albion, 25*s.* to 30*s.*; Montana, 2*l.* to 2*l.*; New Emma, 2*s.* 6*d.* to 3*s.* 6*d.*; Nouveau Monde, 2*s.* to 3*s.*; Oscar, 6*s.* to 7*s.*; Potosi, 3*s.* 6*d.* to 4*s.* 6*d.*; Schwab's Gully, 3*l.* to 3*l.*; Tolima, 4*s.* to 4*l.*; Victoria Gold, 1*s.* 6*d.* to 2*s.* 6*d.*; Western Andes, 4*s.* to 4*l.*

THE BEAUMONT MACHINE TUNNELLING COMPANY (LIMITED).

This company takes over as a going concern the patent and business of the machine tunnelling invented by Colonel Beaumont, of the Royal Engineers, and Mr. Thomas J. Bewick, M.I.C.E., of Haydon Bridge. The machine has been used in the Channel tunnel on both sides and at the Mersey tunnel with much success, as may be judged from the following statement by Messrs. James Brunlees and Charles D. Fox, Engineers to the Mersey Railway:—"Your machine has driven for this company a total length of 2,962 yards in the red sandstone to our entire satisfaction; its highest speed has been 59 yards in the week, and the average of the last two months' driving is 44 yards per week, a rate of speed quite unattainable with any other means that we are acquainted with. The machine leaves the surrounding rock intact and unbroken, and it is a considerable advantage in wet rock to avoid the use of explosives." Contracts are at present in course of execution at the Great Western Colliery and with the Bridgwater Trust.

The company acquires the exclusive license for the British, American, French, and Belgian patents (except for the Channel Tunnel) the right to call for and use any other patents obtained for other countries, with all the vendors' future improvements of the machine, contracts in course of execution, and the valuable plant and machinery. The value of four tunnelling machines complete (to be taken over by the company) are roughly estimated at 14,000*l.* The Beaumont machine, it is stated, not only cuts out of the solid rock a heading up to 8 ft. in diameter, but automatically removes the débris into wagons, and the number and magnitude of the works of this character already contemplated in England, India, and on the continent of Europe, as well as in the United States, justify the directors in entertaining a conviction that there is a large field for the employment of the machines, and that the future of the undertaking will be prosperous and secure. The speed at which the work can be done in all but the hardest rock is said to far surpass that of any percussive drills and explosives. It is, moreover, less costly, and the accidents traceable to the use of explosives in coal mines can be avoided by its use.

Mining Notes.

DR. Rowland J. Atcherley, M.E., &c., proceeded on Thursday by the White Star s.s. *Republic* to New York, *en route* to the mining regions of Arizona and Sonora, on behalf of the Mexican Mining Exploration and Acquisition Syndicate (Limited) of London. Dr. Atcherley's tour will probably extend over some few months.

THE directors of the United Mexican Mining Company have received the following telegram:—The excess of returns over outlay on the mine of San Cayetano de la Ovejera for the week ending October 31, 1885, is \$4386. Remittance sent 2000.

THE Richmond Consolidated Mining Company have received the following telegram from the mine at Eureka, Nevada:—Week's run (one furnace), \$20,000, from 340 tons of ore. Refinery, \$15,000.

THE La Plata Mining and Smelting Company's returns for October are:—Ore received from company's mine, 500 tons; total ore received, 3400 tons; ore smelted, 4800 tons; bullion produced, 375 tons; silver produced, 75,000 ozs.

THE Mysore Gold Mining Company (Limited) have received a telegram from Captain Plummer, dated November 4, giving the month's return of gold, as follows:—169 tons rich quartz from bottom of the mine produced 694 ozs. gold.

MR. LEAN asks us to say that he regrets, through a misreading of the East Pool meeting report, that he should have been led to suppose that Mr. Dennis, of Liverpool, was against the advance of agents' salaries.

THE death of Mr. Adolphus W. Young, who was M.P. for Helston in the last and previous Parliaments, occurred on Wednesday. About a year since Mr. Young had an attack of paralysis, which prostrated him for the time; but he rallied sufficiently to again transact business. Recently, however, failing health induced him to resign several directorships which he held in public companies. Another seizure last week indicated that the end was approaching, and he died on Wednesday morning at his residence, Hare Hatch House, Berks. The deceased gentleman was highly esteemed and respected by numerous friends on both sides of the House of Commons and elsewhere. At Helston news of his death was received with expressions of regret by his late constituents, both Liberal and Conservative. Mr. Young, who had passed his 70th year, married three times. His last wife, who survives him, was Miss Harvey, a daughter of Mr. W. Harvey (head of the firm of Harvey and Co., of Hayle), of Torquay. Mr. Young was a director (Chairman) of the Scottish Australian Mining Company, the General Hydraulic Power Company, the South Australian Company, the South-Eastern Railway Company, the Scottish Australian Investment Company, the Lambeth Waterworks Company, and the City of London Brewery Company (Chairman).

THE manager of the Ecton Company writes that notwithstanding some unavoidable delay caused by exceptionally rough weather which stopped outdoor operations, the dressing machinery is now completed and at work. On Thursday a start was made, and everything was found to work very satisfactorily, and as there is ample ore broken ready for dressing, it will not be very long before the Ecton Company enters the market with its produce. It is satisfactory to see that the manager has completed his machinery within the time specified at the late meeting, no mean accomplishment considering the weather that has lately been experienced at the mines, which are high up in the Peak of Derbyshire.

MR. NANCAROW has started on his return to the Violets Gold Placer, and is instructed by the company to increase the number of his sluices to 30 with all possible dispatch. Latest advices from the mine state that gold is being obtained at all sluices now working.

THE particulars of the past quarter's sale of tin from Dolcoath, which amounted to 30,267L, are given by the *West Briton*:

	Tons.	Money value.
Williams, Harvey, and Co.	305	£20,203
Bolitho and Sons	64	3,269
Penpoll Company	48	2,469
Redruth Company	36	1,816
Daubuz and Co.	23	1,228
R. R. Michell and Co.	13	663
F. Michell (Calewick)	12	609
Total	591	£30,257

It will be seen that Williams, Harvey, and Co. purchased, as usual, about two-thirds of the entire quantity of tin raised, valued at 20,203L. The other third was divided in various proportions between all the other smelters in the county, three of whom—the Penpoll Company, Daubuz and Co., and R. R. Michell and Co.—have no interest in the mine. Except a few of the first parcels after the previous account, which fetched 52L. 15s., all the rest for the quarter sold for 50L. 7s. 6d. As we have previously stated, it has always been considered an especial privilege to obtain the much-coveted Dolcoath tin, and some years ago almost any sum in reason would have been given for it by outsiders. Dolcoath tin, however, was then the perquisite of two companies only—Williams, Harvey, and Co. and the Redruth Company—and for this the adventurers received one in the standard beyond the fixed rates, which on 591 tons would amount to about 400L. This excess, however, when the tin was sold to others than the favoured few, was not continued, and the mine now gets the same price from all the smelters alike, there having been no competition whatever for some years past. It should, however, be remembered that Dolcoath tin is not so high a quality as formerly; it used to produce 13s., but does not now produce more than 13s.

THE full report of New Kitty Mine, which is given in another column, will be read with interest and pleasure, especially by those who have stuck to their holdings through the period of adverse rumours which prevailed some time since. The report of Capt. Vivian is, undoubtedly, the most satisfactory and encouraging which has ever been laid before the shareholders. The ore and the whole indications of the workings are precisely similar to those which preceded the rich tin discoveries in the neighbouring mine of West Kitty, which has yielded, and continues to yield, such substantial returns to the adventurers. The solid increase which has gradually been taking place in the price of the shares is about the best evidence which can be adduced of the growing estimation with which the public regard this property; and, no doubt, those who parted with their shares at low prices some time since regret that they did not follow the recommendation which, at the time, Mr. J. B. Reynolds gave them not to listen to the idle rumours of interested or ignorant parties, but to hold on till the points of workings which Capt. Vivian was quietly pushing on were fully proved. We are glad to be able to assure the friends of Mr. John B. Reynolds that the illness which caused his absence from the meeting, though sharp, is not anticipated to be of long duration.

So severe was the storm in West Cornwall on Thursday morning that at Treavean the brickwork of one of the engine-house stacks was completely torn from top to bottom, and the bricks falling injured the boiler-house.

SINCE the meeting West Basset has made satisfactory returns of tin; and should the returns be maintained the financial statement should be more cheering than the last.

ILL-LUCK would appear to follow in the steps of the manager of South Frances. It used to be defective pitwork that caused the bottom of the mine to be inundated, practically, all the winter months. This defect was remedied, and in this respect this mine is now in an excellent position. At the last account Captain Craze had to report that a dividend was not possible, because of sundry unforeseen circumstances having taken place during the four months. He expressed the hope that they would have no difficulties in the current sixteen weeks. But last week an accident occurred in connection with pumping, and delay was experienced; and, this having been remedied, the next thing to follow was the skip running out of the road, and tearing up the runners. The result of this last has been an interruption in the drawing of stuff. However, it is expected that the delay will be made good.

READERS of the *Mining Journal* will have noticed the attention it has devoted to Wheal Grenville—how it has spoken of its prospects. Carefully managed, not only in respect of operations generally under and above ground, but in regard to its finance, this mine has very quickly taken its position as one of the leading mines of Cornwall. "A good mine makes a good captain" say many. This has been repeatedly urged of late. But such cannot be said, as is implied in the sentence quoted, of Captain Hodge. When that gentleman assumed office the mine did not repay the shareholders in the way of dividends, and—without desiring to draw any invidious comparison—South Caradon, on the other side of the road—was far ahead in the marketable value of the respective properties. Now, however, the value of Wheal Grenville is worth nearly 50,000L. more than its neighbour. South Condurrow prospects, at present, are not comparable with those of Wheal Grenville. The shares in the latter are scarcely obtainable in Cornwall, so tightly are they held, and rapidly as the shares have advanced. On Thursday 14L. was offered in the Cornish Share Market, and shares were not forthcoming. Certain local people are even offering 10s. for such dividend for the current account. In this they are rash. Not only do they not know the minds of the committee, but they know not whether the meeting this time will be three or four monthly. The dividend last time was 7s. 6d. Added to this, Captain Hodge is carrying out an important piece of work in the way of improving the skip-road at Pease's shaft, so that a cage may be provided for lowering and raising the men. This has not before been introduced, and this charge may be met in the current accounts.

A CORRESPONDENT in the *Mining Journal* last week referred to our note concerning Camborne Vean, and asked if it could be true that the mine would not be "reconstituted just yet." It is true. Mr. Fidler is the largest shareholder. He has tried to float the mine and failed, and publicly reported to that effect at a meeting at which our representative was present. Mr. Fidler, however, would gladly receive the 70,000L. he desires for developing the mine, but he states the present is not the time for obtaining capital. We may also inform a correspondent, who recently enquired as to Wheal Jewell, that the mine has been abandoned for many months.

THE question of a duty on tin and copper imported from abroad is meeting with no little attention during the present political struggle. Mr. Leonard Courtney, M.P., an ex-Secretary to the Treasury, has spoken on the subject. He remarked that, while he drew no conclusions from the figures he cited, he yet thought they were interesting. During 22 years of Liberal Government the average price of tin was 68L. 2s. 9d. per ton, and during 11 years of Conservative government 49L. 13s. He thought that the figures proved that trade was prosperous when people were in a state of security and peace. The hon. gentleman ridiculed a tax on imported tin.

THE political atmosphere in the Mining Division is still hot and threatens to become even more heated as the polling-day nears. Mr. Conybeare's and Mr. Vivian's committee have been in correspondence, the latter having circulated a leaflet asserting Mr. Conybeare would speak on anything on the Sabbath except religion. The Radical candidate asked for the withdrawal of so "false and libellous a statement." In response, Mr. Vivian's secretary desired Mr. Conybeare to have regard to the law of courtesy, Mr. Conybeare having written to Mr. Rich, and not to the committee, and again, in reply, Mr. Conybeare speaks satirically of Mr. Rich becoming his tutor in regard to courtesy, and having reference to his own assertion that the committee's circular was "false and libellous," enquires if he should be deemed courteous were he to characterise Mr. Rich and Mr. Vivian's committee as liars. There are rumours that a Conservative candidate will be forthcoming. The *Mining Journal* ascertains, on the most reliable authority, that representative Conservatives know nothing of the report. In a constituency of more than 7000, the Conservatives claim that the result of the canvas of the Liberals has resulted in 1500 having declared themselves Conservatives. This number, therefore, could not return a Tory; but this influence, thrown on the one side or the other would unquestionably turn the scale. As a body, the Conservatives will abstain from voting, but many have publicly declared they shall vote for the Radical candidate, whose energy in the matter of Mining Reform commands their support.

WHOEVER succeeds in the Mining Division there can be no doubt that this question of Mining Reform will receive the attention, and we hope the careful consideration of Parliament. There are good men and true who having seen our statements are boldly committing themselves to a practical programme. When one hears complaints on all sides of successful foreign competition it is high time that we should turn round and see if the primary conditions upon which our home industries are based are just and equitable. The letter from Mr. H. R. Lewis in another column is clear evidence [if it were wanted] that in some directions they are not. Prof. Sheldon, a candidate for a Northern mining constituency, and an especially able man, has stated his determination if elected to move for a Royal Commission to enquire into the Royalty and Dues question, and we have no doubt that if Prof. Sheldon should be unfortunately rejected that public opinion on these subjects will secure such an enquiry. The electors of the Mining Division, however, should not forget that Mr. Conybeare, challenged by the *Mining Journal* to show a definite practical programme, was the first to stir up this matter, and therefore in our opinion deserves the support of all interested in mining regardless of mere Party feeling—which is but poor stuff as compared with the promotion of the common good.

BOTH Tincroft and Carn Bras have been gradually improving for some time, and are long these mines should do well. At Carn Bras the 187 east is again looking well, and the 200 east is worth from 20L. to 30L. per fathom. At Tincroft several points look well.

THE Ouro Preto Gold Mines of Brazil (Limited) have received a remittance of gold value 2029L.

AT Organos the latest crushings are as follows:—570 tons crushed for 487 ozs. of gold, or 84 ozs. per ton; 12 tons crushed for 108 ozs. of gold, or 9L. 6s. per ton; total, 582 tons crushed for 595 ozs. of gold, or 1,022 ozs. per ton. There remains \$6000 of gold in the pyrites yet to be treated. The total return of gold, exchange, and pyrites in stock is valued at \$16,031. The cost is estimated at \$5000 to \$6000. There is in hand at the mine sufficient cash to pay all the wages to February next, while the crushings now going on will be yielding further returns.

CORNISH COPPER TICKETINGS.—571 tons of copper were sold at Redruth, on Thursday, containing 3213 cwt. of fine, realising 1036L. 10s.; average, 1L. 16s. 6d.; produce, 5L.; standard, 79L. 17s.; advance, 5s.; Mellanear, sold 500 tons; amount, 833L; South Tolcarne, 3061L.; Wheal Agar, 2593L.; Violet Seton, 1650L.

SUBJECT to audit, the directors of the New Hoover Hill Gold Mining Company (Limited) will recommend at the annual meeting a dividend for the half-year ending 30th September, 1885, at the rate of 15 per cent. per annum free of income tax, or 9d. per share, making, with the interim dividend paid in May, a dividend of 10 per cent. for the year.

AT Wheal Basset meeting yesterday (Friday) a satisfactory state of affairs was shown, and a dividend of half-a-crown a share declared. For a long time the shareholders have provided for the development of the mine, and this is another instance of patience rewarded. Report in another column.

It is said that Violet Seton, supported entirely by Colonel Fludger, will soon cease operations. A number of men have been recently discharged. At any rate the gallant gentleman cannot go on losing money for ever. Down to June he had lost in Cornish mining—according to an adventurer in the Colonel's confidence—122,000L.

THE increase in the Cornish tin standards has given general satisfaction. It is felt that the market must be from this fact most firm.

GUNNISLAKE (Clitters) is placed on the calling list. A four-monthly meeting was held at the account house on Thursday of last week. Mr. R. Skinner, the purser, produced the accounts for the period from the 18th of April to the 8th of August, which showed labour cost, 1471L.; merchants' bills, 555L.; lords' dues, 43L.; reserved towards 13th months' cost, 180L.; interest, &c., 26L.; making, with an adverse balance of 628L. from the previous account, a total debit of 2905L. The credits were 1781L., realised on the sale of 488 tons of copper ore; discounts, 16L., leaving a balance against the shareholders of 1107L. A call of 3s. per share, on 9830 shares (1474L.) was made, to pay off the debit balance, and towards the cost of the current three months. The committee were re-elected. We were erroneously informed last week that no call was made at this meeting.

AT Trevaunance the engine will be set to work the week after next. The mine is looking well, and an increase in the returns of copper is expected.

THE shareholders of the United Mexican Mining Company will probably agree with Mr. William Abbott's remarks at the meeting reported in another column, and they should also be grateful to that gentleman for having already obtained important improvements in the general management of the company. There is still room for considerable improvement, however, and we are glad to see that Mr. Abbott shows no sign of retiring from his well-known position of the business-like critic. Mining shareholders are too strongly inclined to the Micawber principle of "waiting for something to turn up," instead of pulling their management together to make the best of existing circumstances. Is the Bunsen report so very strong that it is "not for general circulation?" We were refused a copy of it yesterday, and we were not favoured with a copy of the directors' report when first issued. As the company's officials have shown themselves uniformly glad of the gratuitous publicity our columns afford this has caused us some surprise. Probably every shareholder will now make a point of requiring a copy of this Bunsen report, and we should not be surprised if one of them were to send it to us during next week. Mr. Abbott's point as to the professional auditor hardly requires comment. The idea of issued audited accounts without the certificate of the auditors is indeed too comical for plain business men, and speaks volumes for the general system prevailing. The position and prospects of the company may be regarded, on the whole, as very satisfactory. The ley of the ore is not so rich at the present time as it was some time since; but this fluctuation in value is characteristic of mines of this description where the lode is bumpy, and, therefore, no undue importance need be attached to what is probably a more temporary falling off in the richness of the ore. Mr. Abbott says in his circular—"The report of the expert sent out with the secretary to examine this great property does not compliment the management. I have for a long time thought that much more might be done to bring the shareholders within sight of success more rapidly. The directors' report just issued, takes credit for various changes and improvements, everyone of which was suggested by me. This is a wonderful property, but the administration is antiquated and sleepy. Shareholders ought not to be denied the satisfaction of seeing the development of their property in their own lifetime, rather than to limit their pleasurable excitement to forming estimates as to the hidden wealth to be unfolded for the benefit of posterity." Quite so, Mr. Abbott, and we would add that heavy working expenses in the meantime go on "for ever." Directors must really think more of the position of shareholders whose purses will not allow them to transmit their wealth. Many of the shareholders in the United Mexican, La Plata, and other mines in a dividend-paying position, are absolutely suffering from this cause.

Mr. Abbott thinks the last report of La Plata Mining Company is more encouraging, and is decidedly the best issued since the English administration obtained possession. "The proposal which I made at the meeting to distribute the 12,000L. earned by means of debentures was not adopted, and on reflection it is perhaps wiser to leave the cash in the company for the present without creating any prior charge. Improving credit will enable the directors later on to pay off the outstanding debentures, and to distribute dividend amongst the patient shareholders. Meantime it is satisfactory to know that the company is making steady progress."

THE gold returns from the Pestarena United Gold Mines for October were as follows:—From Pestarena District 300 ozs. 14 dwts. 22 grs., from 635 tons of ore, equal to 9 dwts. 13L. 6s. per ton.—Val Toppa: 179 ozs. 9 dwts. 12 grs., from 345 tons, equal to 10 dwts. 9L. 6s. per ton. Total 480 ozs. 4 dwts. 10 grs. obtained from 980 tons of ore amalgamated.

THE CUMBERLAND OR THORNTHWAITE LEAD MINING COMPANY (LIMITED).

SIR.—Since reading the report of the Thorntwaite Lead and Zinc Mines in your issue of October 17, I have made a thorough investigation of the enterprise, and it will, no doubt, interest many of your readers by my giving a concise account of the Thorntwaite Mines, the property of the Cumberland Lead Mines Company (Limited). They occupy a position 4 miles from Keswick by the roadside, leading to Cockermouth, or $1\frac{1}{2}$ miles from Braithwaite Station, with the line running about two gunshots from the main engine-shaft, to which a siding and branch is marked out. The veins occur in the Skiddaw slates, which attain a thickness of 7000 ft., the line of cleavage N.N.E. by S.S.W., the main lodes bearing more or less north and south, of which four are already known in the Thorntwaite Mine, and three of them proved rich in both lead and zinc ores. In addition to these there are also numerous cross lodes, counter lodes, strings, and cross-courses intersecting the main lodes very frequently and at various angles, fracturing the strata that, therefore, under such favourable conditions for the precipitation of mineral this mining field may justly be said to be literally full of ores; but perhaps the most remarkable feature it possesses is the enormous size of the Thorntwaite lode proper, and its ore-producing capabilities. Scarcey, if ever, have I had an opportunity in all my experience of examining a lode of such magnitude. The company owns it for about 2 miles in length, and it opens out to 30 ft. in width, rich in lead and zinc ores, which can be sent to market at a great profit that nothing but a good mine like this can return. From its size and character the interior of the mine presents more the appearance of a quarry of ores than what mines generally do, and to me it certainly appears that the leading cause of its being so rich arises from the frequency of the tributaries or feeders that intersect the main lodes, and to which I would suggest attention should be paid, and to a regular system of cross-cutting, which is the true secret of the success which has attended the researches under judicious management, placing the mine amongst the most profitable and lasting mines of the kingdom. It also embraces the Blandy lode, and the relative positions of the lodes are such that Thorntwaite can naturally yield the profits of two mines, with little more than one expense. The mines are at present 37 fms., or 222 ft. deep, with the courses of ores continuing from within a few feet of surface to the lowest levels, and increasing in productiveness as depth is attained, the lowest levels being the richest of any. By reason of a difference in the respective underlays of lodes they intersect the main lode at a depth of 52 fms. from surface, hence the increase in their value in depth, and a new sinking of 15 fms. more is properly decided upon, and provisions are being made for still further extended workings, which are particularly set forth in the full set of plans by the company's engineer, Captain J. B. Lobb, Keswick. The North of England is one of the principal lead producing centres of the kingdom, yielding in 10 years 481,534 tons of ore, which produced 340,960 $\frac{1}{2}$ tons metallic lead, taken at the present market price of, say, 12*l.* per ton, gives in cash value 4,091,526*l.* irrespective of the silver extracted therefrom. These figures are large, but they do not represent a tithe of what the district is capable of returning. Capital could not be better employed than in working such large and rich lodes as those of the Thorntwaite Mine, with a certainty of dividends not less in the case of this mine than 25 per cent.; for that element of speculation which is often more or less inseparable from working untried lodes is quite laid aside in the substantial position Thorntwaite has attained: for it is now simply a matter of taking out the silver-lead and zinc ores, and sending them to market as cheaply and expeditiously as possible, and no enterprise could offer better facilities than Thorntwaite for doing so. The lodes bear rich up to within a few feet from surface, with already sufficient in sight that 100 men can be started at once to raise ore. A railway close by, with water-power for pumping, crushing, and dressing, and plenty of cheap labour in the neighbourhood. I may also add the ores are of fine quality, yielding 78 per cent. lead and 12 ozs. of silver per ton, and the zinc worth from 3*l.* 10*s.* to 4*l.* per ton.

Such are a few of the leading features of this splendid property, and I would here remark that to Captain J. B. Lobb is due the credit of bringing to light these rich deposits of ores which have placed the Cumberland Lead Mines (Limited) in the front ranks of the richest lead and zinc mines of the kingdom, and further, I find that each of the directors and responsible servants of the company are amongst its largest shareholders, which practically ensures their best attention to its interests, and the immediate realisation of dividends and the shares commanding an equivalent market value.

New dressing machinery capable of treating 75 tons of the rough ore per day are bought, and will be erected forthwith; and I have permission to state that any further particulars your readers may desire can be obtained of Messrs. Pennington and Co., Moorgate-street, London.—London, November 5. A PRACTICAL TOURIST.

MR. LEONARD COURTNEY, M.P., ON FREE TRADE AS AFFECTING CORNISH MINING.

At a meeting of the electors at St. Cleer, last week, after asserting that half Free Trade was better than none, Mr. Courtney turned to the consideration of the question as to how Free Trade affects the mining interest. He said that miners had been told that, but for Free Trade, the mines of Cornwall would still be prosperous. A gentleman had sent him a calculation showing the prices of tin during the last 30 years under Liberal and Conservative Governments, and, though he did not draw any strong conclusions from them, the figures were interesting. A summary showed that the average price of tin per ton for 22 years of Liberal Government had been 68*l.* 2*s.* 9*d.*; for 11 years of Tory Government, 49*l.* 1*s.* The highest price realised was during Mr. Gladstone's Government of 1872, when it reached 89*l.* a ton, and the lowest during Lord Beaconsfield's Government, some five years later, when it went down to 35*l.* a ton. He (Mr. Courtney) thought these figures only showed that trade was prosperous when people were in a state of security and peace. (Applause.) As to the allegation that the Cornish mines were injured by Free Trade, Mr. Courtney pointed out that every party in the State is agreed that raw materials are to be imported untaxed, so it was in vain to expect that any tax would be put on foreign tin or copper. And if it were true, as it might be in some measure, that the miners would be kept going to some extent if there had not been Free Trade, he put it to their virtue what had been the effect on the people of the United Kingdom at large. Why, they had had their wants supplied and their industries maintained at an easier rate, they had had the raw materials upon which to work at a cheaper price, and therefore those who suggested that they ought to have protection to keep the mines going were suggesting that the mass of the people of the United Kingdom should be taxed for the benefit of the Cornish miners. Of course, a man did not like to be out of work, but he appealed to their sense of justice and honour and equity whether it would be at all defensible to tax the whole of the people of the United Kingdom in order to keep Cornish tin and copper mines going. The people at large have been benefited by the change, and he was not going to allow that the Cornish miners had been injured. He was a Cornishman, and was proud of it—(cheers)—and he had often said that he had never been more proud of being a Cornishman than when he was watching the conduct of the Cornish miners during the critical years they had to go through. The people of some countries, indeed the people of a neighbouring island, if they had had to undergo a crisis like that to which Cornishmen had been subjected, would have clamoured for State assistance, but the Cornish miners, realising the situation, feeling what was and what was not possible, and frankly accepting the situation, had betaken themselves to other parts of the world where mines were being worked, and you could not go now to any quarter of the globe, whether it be our colonies, dependencies, or elsewhere, without finding wherever a mine was in operation a Cornishman either superintending or working it. (Cheers.) They were conferring a great benefit on the world, and making their country illustrious, and one would find a large number of them in

Australia, Nevada, California, North America, Cuba, the Cape, and Brazil. He did not look with complacency on quitting the country of one's birth, but he said that what had happened was for the good of the world at large, and good for the people of Cornwall that they should have been spread abroad throughout the earth, and become the instruments for supplying the wants of humanity at a cheaper and easier rate. It might seem a hard doctrine, but it was a true one, and woe to those who turned back because they found that doctrine too hard to bear. (Cheers.)

INDIAN GOLD MINES.

The following review by Mr. William Abbott of the principal facts in connection with the Mysore Gold Mines, which are now attracting much attention, will be read with interest. Practical miners have all along advocated the sinking of shafts now recommended by Mr. Abbott:—

Five years ago an official Blue-book was issued, by order of Parliament, containing elaborate reports upon the enormous wealth of some of the gold-bearing reefs in India, and on the faith of that report companies were formed and capital to the extent of 4,000,000*l.* was subscribed. Most of this large sum was extruded away and otherwise evaporated. While the wild excitement lasted companies were formed to work supposed gold reefs which could not, and as a matter of fact, never did, pay. The public were grossly misled by Government officials, and they lost their money. A few companies, however, survived, and having surmounted early difficulties, and with sufficient capital left to push on opening out the reefs vigorously, they are now demonstrating that the existence of gold in India in paying quantities is not a dream. But there is a marked difference between what we know and what the Government report led us to anticipate. Experience has shown that mining in India must be undertaken in much the same way as in other parts of the world, and that sinking below the old workings is necessary, and that, too, with the most approved appliances known to skilful mining experts. This sinking is now being pushed on vigorously, and the indications are unmistakable that if this course had been adopted at the outset many companies which had to give up in consequence of their capital becoming exhausted in surface explorations on the faith of the Government report would be in existence to-day, and probably paying dividends. From the enormous extent of old workings now opened out it is evident that the ancients were better miners in the days of King Solomon than we gave them credit for; but the advices from the Mysore and Consolidated Companies confirm the opinion expressed by those who ought to know, that when the sinkings, now being pushed on rapidly, get below these old shafts very valuable discoveries will be made, and large deposits of rich quartz brought to the surface. The following is the position of the companies working the Mysore Gold Field:—

Indian	Consolidated.	Formerly	Colar	Company.
Mysore	Company.	Length,	1 <i>1\frac{1}{2}</i> miles.	
Indian	Consolidated.	Formerly	Colar	Company.
Mysore	Company.	Length,	1 <i>1\frac{1}{2}</i> miles.	
Indian	Consolidated.	Formerly	Great	Southern
Mysore	Company.	Length,	1 <i>1\frac{1}{2}</i> miles.	
Indian	Consolidated.	Formerly	Great	Southern
Mysore	Company.	Length,	1 <i>1\frac{1}{2}</i> miles.	
Indian	Consolidated.	Formerly	Madras	Company.
Mysore	Company.	Length,	1 <i>1\frac{1}{2}</i> miles.	

Each week the reports from the Mysore Gold Mining Company show a steady improvement, and those published to-day are the best yet issued. There is nothing sensational in the advices as yet sufficient to cause wild excitement, and this is a matter for congratulation; but the news of reefs having been cut 6 ft. wide, yielding 4 to 6 ozs. of gold to the ton (when $\frac{1}{2}$ oz. pays) is sufficient to stimulate pleasurable anticipations as to what may be in store for the shareholders, who, it would appear, are likely before long to be amply rewarded for their early disappointment. These shares have been as low as 1*s.* 3*d.* per 1*l.* share only last year, they are now 3*l.*, and look like touching 5*l.* before very long.

The property owned by the Indian Consolidated Gold Company is large and of a varied character. In the Wynnaid it comprises nearly 2000 acres, much of which is under cultivation; but the mining estate in this district is not neglected, and the bulk of the quartz crushed already yields a profit on working it. A large sum will come in to the credit this year from the sale of coffee, cinchona, and gold, nearly enough to pay the cost of working. I estimate that cultivation should produce some 1000*l.*, and the gold won at the Phoenix Mine in the Wynnaid something like 3000*l.*, two very important items on the credit side of a balance-sheet. But it is upon the Colar property, which adjoins the Mysore, that the greatest interest is centred, the indications met with in the various sinkings being almost identical with those of the neighbouring Mysore, and all point to the early finding on this property of the rich lode which is now being so profitably worked by the Mysore Company. The directors of the Consolidated are to be commended on their foresight. At a time when the gold mining industry in India was at its lowest state of de-

pression they purchased for a merely nominal sum, three properties on the lie of the Mysore reef, as shown on the above plan. These were the Colar, Great Southern of Mysore, and the Madras blocks. These two latter estates are not being worked at present, but they must command a very high price in the market as soon as the public understand, and are really convinced, of the reality of these gold discoveries in India. In addition to these valuable and extensive reserves in real estate and mines, this company has invested in first-class dividend-paying securities, &c., nearly 30,000*l.*, a sum sufficient alone to keep the company going for many years to come, while there are indications that the remittances of gold which are now being made will be considerably increased. Supposing, as is now, probable that the Mysore Company were to pay a dividend, and Consolidated turn out gold in quantity, and dispose of these two estates they hold in reserve, to what price would these shares advance? These contingencies are not by any means so remote as the low price of the shares would seem to indicate. At yesterday's price of 8*s.* 6*d.* these shares (1*l.* fully paid, and limited), are certainly a tempting speculative venture.

FOREIGN MINING AND METALLURGY.

The condition of the French Iron Trade is still indifferent, but prices have not experienced much change during the last few days. Merchants' iron has continued to make 5*l.* 8*s.* per ton; but concessions are made in the case of considerable transactions. Stocks of pig are stated to be accumulating in the Longwy basin. An order for 21,000 tons of steel rails, which is about to be given out by the Orleans Railway Company, will be keenly contested for by the St. Nazaire and Denain Works as well as by the Steel-works Company of France. The blast-furnaces of the Zollverein produced in September 309,243 tons of pig, of which 156,987 tons were refining pig, 9554 tons spiegel pig, 37,416 tons Bessemer pig, 66,976 tons Thomas-Gilchrist pig, and 33,310 tons casting pig. In September, 1884, the corresponding production was 294,330 tons. The aggregate production of the blast-furnaces of the Zollverein from January 1 to September 30 this year was 2,806,322 tons, as compared with 2,678,953 tons in the corresponding period of 1884. At the close of September Rhenish and Westphalian industrials had orders in course of execution for 21,778 tons of casting pig No. 1, 5336 tons of casting pig No. 2, and 13,078 tons of casting pig No. 3. These orders were of about the same importance as those in course of execution at the close of August. The blast-furnaces devoted to the production of casting pig have orders which will occupy them for three or four months to come.

The principal event in the Belgian Iron Trade has been an announcement of the intention of the Belgian Government to let contracts for about 37 miles of metallic permanent way. This announcement has, of course, been received with much satisfaction. Having regard to the present extremely low price of iron, and the progress realised in connection with metallic permanent way, it certainly was high time that the Belgian authorities should make a practical and serious experiment upon the subject. As regards the current aspect of the Belgian iron markets it may be observed that prices have remained about stationary. There has, however, been rather a better demand for some descriptions of rolled iron. Notwithstanding this slight improvement the situation still remains grave, and the total or partial stoppage of certain works is beginning to be talked of. This would be a painful necessity now that the winter is so close at hand. Some export orders are stated to have been received and accepted for girders at extremely low rates. The John Cockerill Company has obtained a small order from the Spanish Director-General of Artillery. The Willebroek Construction Company realised a profit last year of 10,884*l.*; of this sum 4744*l.* was carried to the reserve fund, and the balance was applied to the payment of a dividend upon the share capital at the satisfactory rate of 12 per cent. per annum. The company is now engaged upon a bridge over the Douro; the structure has reached an advanced stage.

The tone of the Belgian Coal Trade has experienced no material change during the last few days. Notwithstanding the near approach of winter, prices have not shown any great firmness. Household coal has been quoted at 8*s.* 10*d.* to 11*s.* 1*d.* per ton. The number of trucks carrying coal and coke which passed over the Belgian State Railways in the week ending October 25 showed a falling-off of 3308, as compared with the corresponding seven days of 1884. According to an official German return the production of coal in Germany in the first nine months of this year showed an increase of 2 per cent., as compared with the corresponding output in the corresponding period of 1884. The deliveries of coal over the railways accommodating the basin of the Ruhr amounted in the first half of October to 82,000 tons, as compared with 80,050 tons in the corresponding period of 1884, showing an augmentation of 2040 tons this year. The deliveries of coal to Italy from Westphalia and the Sarrobruck district in September were 6270 tons; the corresponding deliveries in August were 6610 tons. The output of coal in the Dortmund district in the third quarter of this year amounted to 7,181,812 tons, as compared with 7,127,032 tons in the corresponding period of 1884. The sales effected in the third quarter of this year were 6,788,908 tons, as compared with 7,188,154 tons in the corresponding quarter of 1884. The production of the Dortmund district for the first nine months of the current year was 21,228,111 tons, as compared with 20,798,404 tons in the corresponding period of 1884.

INDUSTRIAL COMPANIES.—Shares in the best of these undertakings continue to attract a good deal of attention, and many can still be bought to yield a high rate of interest. Telegraph Construction, Eley Brothers, Kynoch and Co., Aerated Bread, Price's Patent Candle, all give a good rate of interest at current prices. The prudent course to adopt in making investments of this class is to spread the money over as wide an area as possible. Say for 1000*l.*, a selection of five companies for 200*l.* each, or 10 of 100*l.* according to the fancy of the investor. By adopting this plan all risk is avoided, or reduced to a minimum, a fair average interest obtained, and, if the selection is carefully made, a prospect of an increase in value of the capital so employed. Since directing attention to the Rhymney Iron Debentures a very large business has been done in them. They are a good security, and, being payable to bearer, with half-yearly coupons attached to the bonds, they are free from stamp duty, and are convenient for mixing with other investments on the Trust principle. As they pay 8 per cent. at the present price of 95*l.*, a few of them placed in the trust help to increase the average income from the entire investment.—(From Mr. WILLIAM ABBOTT'S Circular.)

ON October 27 the extensive Osier Bed Ironworks, Wolverhampton, which have been standing idle for over 15 months, were restarted under the new proprietary of Messrs. John Lysaght (Limited). The works will be employed in the production of sheets for galvanising. By next week two forges and three mills will be running, and in a month's time five mills will be ready. When fully restored and in full swing the works will employ 400 ironworkers, who will receive 60*l.* a week in wages. The restart has caused much rejoicing.

A meeting of shareholders of the South Caradon Mine was held on October 27, at the offices of the company, when it was unanimously resolved to wind up the concern voluntarily, the liquidators, Messrs. J. Willis and W. J. Lavington, expressing their opinion that a first dividend of about 4*s.* per share should be declared by the end of the year.

Provincial Stock and Share Markets.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Redruth, writes under date November 5:—We have had a better market this week. Dolcoath advanced 1*l*, East Pool $\frac{1}{2}$, South Crofty $\frac{1}{2}$, West Francis $\frac{1}{2}$, Wheal Agar $\frac{1}{2}$, and Wheal Bassett $\frac{1}{2}$. Smelters advanced tin standards 2*s*. yesterday. At Cook's Kitchen meeting to-day, a 20*s*. call was made. Following are the prices:—Blue Hills, $\frac{1}{2}$ to $\frac{1}{2}$; Carn Brea, 2*l* to 3*l*; Cook's Kitchen, 9 to 10*l*; Dolcoath, 7*l* to 7*l*; East Blue Hills, 1*l* to 1*l*; East Pool, 4*l* to 4*l*; Killifret, $\frac{1}{2}$ to $\frac{1}{2}$; New Cook's Kitchen, 1*l* to 1*l*; Pedan-dre, 1*l* to 1*l*; Prince Royal, 4*l* to 5*l*; Polberro, 1*l* to 2*l*; South Condurrow, 6*l* to 6*l*; South Crofty, 7*l* to 7*l*; South Wheal Frances, 7*l* to 8*l*; Tincroft, 5*l* to 5*l*; Trevaunance, 2*l* to 2*l*; West Bassett, 1*l* to 2*l*; West Frances, 8*l* to 8*l*; West Godolphin, 1*l* to 1*l*; West Kitty, 7*l* to 8*l*; West Polberro, 1*l* to 1*l*; West Wheal Seton, 4*l* to 5*l*; Wheal Agar, 19*l* to 19*l*; Wheal Bassett, 6*l* to 6*l*; Wheal Grenville, 13*l* to 14*l*; Wheal Kitty (St. Agnes), 9*l* to 9*l*.

—Mr. M. W. BAWDEN, Liskeard, writes under date November 5:—The mining market presents a firmer appearance with the improvement on the tin standard, and the reduction in stocks of 757 tons; there is a better enquiry for dividend and good progressive mines shares, and sellers scarce in hopes of better prices being shortly obtainable. Following are the prices:—Anderton United, 2*l* to 3*l*; Bedford United, 4*l* to 5*l*; Blue Hills, 1*l* to 1*l*; Carn Brea, 2*l* to 2*l*; Carn Camborne, 2*l* to 3*l*; Cook's Kitchen, x. 9 to 9*l*; Dolcoath, 7*l* to 7*l*; Devon Consols, 1*l* to 2*l*; East Blue Hills, 1*l* to 1*l*; East Pool, 4*l* to 4*l*; Gunnislake (Clitters), 2*l* to 3*l*; Killifret, 1*l* to 1*l*; Marke Valley, 2*l* to 3*l*; New Kitty, c. p. 1*l* to 1*l*; Pedan-dre, 1*l* to 1*l*; Phoenix United, 1*l* to 1*l*; Prince of Wales, 7*l* to 8*l*; South Condurrow, 6*l* to 6*l*; South Crofty, 7*l* to 7*l*; South Frances, 7*l* to 7*l*; Tincroft, 5*l* to 5*l*; Trevaunance, 2*l* to 2*l*; West Bassett, 1*l* to 2*l*; West Frances, 8*l* to 8*l*; West Godolphin, 1*l* to 1*l*; West Kitty, 7*l* to 8*l*; West Polberro, 1*l* to 1*l*; West Wheal Seton, 4*l* to 5*l*; Wheal Agar, 19*l* to 19*l*; Wheal Bassett, 6*l* to 6*l*; Wheal Grenville, 13*l* to 14*l*; Wheal Kitty (St. Agnes), 9*l* to 9*l*.

—Messrs. ABBOTT and WICKETT, stock and share brokers, Redruth, write under date November 5:—The share market has been better this week. There has been a good enquiry for Dolcoath and East Pool at higher rates, and shares are scarce. Wheal Agar are in demand at 19*l*, and Grenville at 13*l*. Tin standards advanced 2*l*. yesterday. Closing quotations herewith:—Blue Hills, 7*l* to 7*l*; Carn Brea, 2*l* to 3*l*; Cook's Kitchen, 9 to 10*l*; Dolcoath, 7*l* to 7*l*; East Blue Hills, 1*l* to 1*l*; East Pool, 4*l* to 4*l*; Killifret, 1*l* to 1*l*; Marke Valley, 2*l* to 3*l*; New Kitty, c. p. 1*l* to 1*l*; Pedan-dre, 1*l* to 1*l*; Phoenix United, 1*l* to 1*l*; Prince of Wales, 7*l* to 8*l*; South Condurrow, 6*l* to 6*l*; South Crofty, 7*l* to 7*l*; South Frances, 7*l* to 7*l*; Tincroft, 5*l* to 5*l*; Trevaunance, 2*l* to 2*l*; West Bassett, 1*l* to 2*l*; West Frances, 8*l* to 8*l*; West Godolphin, 1*l* to 1*l*; West Kitty, 7*l* to 8*l*; West Polberro, 1*l* to 1*l*; West Wheal Seton, 4*l* to 5*l*; Wheal Agar, 19*l* to 19*l*; Wheal Bassett, 6*l* to 6*l*; Wheal Grenville, 13*l* to 14*l*; Wheal Kitty (St. Agnes), 9*l* to 9*l*.

—Mr. JOHN CARTER, mine share-dealer, Camborne, writes under date November 5:—The Cornish Share Market is steady. On the 4th inst. the tin standards were advanced 2*l*. At Cook's Kitchen meeting to-day a call of 20*s*. was made to meet the loss on the 18 week's working was made. Closing prices are annexed:—Blue Hills, 7*l* to 7*l*; Carn Brea, 2*l* to 3*l*; Cook's Kitchen, 9*l* to 10*l*; Dolcoath, 7*l* to 7*l*; East Blue Hills, 1*l* to 1*l*; East Pool, 4*l* to 4*l*; Killifret, 1*l* to 1*l*; Marke Valley, 2*l* to 3*l*; New Kitty, 1*l* to 1*l*; Pedan-dre, 1*l* to 1*l*; Phoenix United, 1*l* to 1*l*; Prince Royal, 4*l* to 5*l*; South Condurrow, 6*l* to 6*l*; South Crofty, 7*l* to 7*l*; South Frances, 7*l* to 7*l*; Tincroft, 5*l* to 5*l*; Trevaunance, 2*l* to 2*l*; West Bassett, 1*l* to 2*l*; West Frances, 8*l* to 8*l*; West Godolphin, 1*l* to 1*l*; West Kitty, 7*l* to 8*l*; West Polberro, 1*l* to 1*l*; West Wheal Seton, 4*l* to 5*l*; Wheal Agar, 19*l* to 19*l*; Wheal Bassett, 6*l* to 6*l*; Wheal Grenville, 13*l* to 14*l*; Wheal Kitty (St. Agnes), 9*l* to 9*l*.

—Messrs. J. S. DAVEY, mine share-dealer, Camborne, writes under date November 5:—The Cornish Share Market is steady. On the 4th inst. the tin standards were advanced 2*l*. At Cook's Kitchen meeting to-day a call of 20*s*. was made to meet the loss on the 18 week's working was made. Closing prices are annexed:—Blue Hills, 7*l* to 7*l*; Carn Brea, 2*l* to 3*l*; Cook's Kitchen, 9*l* to 10*l*; Dolcoath, 7*l* to 7*l*; East Blue Hills, 1*l* to 1*l*; East Pool, 4*l* to 4*l*; Killifret, 1*l* to 1*l*; Marke Valley, 2*l* to 3*l*; New Kitty, 1*l* to 1*l*; Pedan-dre, 1*l* to 1*l*; Phoenix United, 1*l* to 1*l*; Prince Royal, 4*l* to 5*l*; South Condurrow, 6*l* to 6*l*; South Crofty, 7*l* to 7*l*; South Frances, 7*l* to 7*l*; Tincroft, 5*l* to 5*l*; Trevaunance, 2*l* to 2*l*; West Bassett, 1*l* to 2*l*; West Frances, 8*l* to 8*l*; West Godolphin, 1*l* to 1*l*; West Kitty, 7*l* to 8*l*; West Polberro, 1*l* to 1*l*; West Wheal Seton, 4*l* to 5*l*; Wheal Agar, 19*l* to 19*l*; Wheal Bassett, 6*l* to 6*l*; Wheal Grenville, 13*l* to 14*l*; Wheal Kitty (St. Agnes), 9*l* to 9*l*.

—MANCHESTER.—Messrs. J. S. DAVEY, mine share-dealer, Camborne, writes under date November 5:—The actual business recorded during the week is not large, and is somewhat desultory, as, excepting here and there, the business of each day has not often amounted to more than solitary transactions, so far as regards home rails. The loss of a day by the usual November holiday has assisted at decreasing the aggregate for the week; but, apart from this, the volume is small. The movements in rails have been more specific than general. In several instances where special influences have been at work activity in diverse directions has occurred; but this has not pervaded the whole market, as is the case when something occurs to affect values all round. In such a state of things no distinct gauge can be made of the tendency of the market as a whole; all that can be said is that perhaps the balance of movement is on the favourable side to some small extent. This favourable balance might have been more pronounced probably, but the only approach to a universal change occurred on the publication of traffic, which, being far from encouraging, brought some depression on the whole market. American rails have been peculiar in that they have not altogether followed figures from the other side, as on Friday and Saturday last, though quotations from New York showed reductions varying in amount, prices on this side went better. Consols are quite steady, and show a rise of 5*s*. on the week, the advance of that amount having been made to-day. India Four per Cent. quote 1*l* lower. Foreign Government Loans, &c., have received some attention to quotations, with an adverse balance of change.—Higher: Mexican Three per Cent. (5*l*), 1*l*; Portuguese, 1*l*; and Spanish, 1*l*.—Lower: Argentine Hard Dollar Bonds, 2*l*; Egy. United, 1*l*; ditto, Preference, 1*l*; Turkish (Group 4), 1*l*; Peruvian Six per Cent. (7*l*), 1*l*; and Italian (5*l*), 1*l*. Some other fluctuations have occurred, but figures having settled quote no change for the week. Colonials, besides alterations consequent on prices being quoted ex-dividend, show no variations, save in the case of Victoria Four per Cent. Inscr. which mark 1*l* better. Home Corporation Stocks, &c., are unaltered, except Liverpool Three-and-Half per Cent., which have recovered 1*l* to 1*l*. The changes in values in the several departments of miscellaneous are comparatively not numerous, nor is the balance sufficient to evidence decided leaning for or against.

BAKERS.—Messrs. J. S. DAVEY, mine share-dealer, Camborne, writes under date November 5:—The actual business recorded during the week is not large, and is somewhat desultory, as, excepting here and there, the business of each day has not often amounted to more than solitary transactions, so far as regards home rails. The loss of a day by the usual November holiday has assisted at decreasing the aggregate for the week; but, apart from this, the volume is small. The movements in rails have been more specific than general. In several instances where special influences have been at work activity in diverse directions has occurred; but this has not pervaded the whole market, as is the case when something occurs to affect values all round. In such a state of things no distinct gauge can be made of the tendency of the market as a whole; all that can be said is that perhaps the balance of movement is on the favourable side to some small extent. This favourable balance might have been more pronounced probably, but the only approach to a universal change occurred on the publication of traffic, which, being far from encouraging, brought some depression on the whole market. American rails have been peculiar in that they have not altogether followed figures from the other side, as on Friday and Saturday last, though quotations from New York showed reductions varying in amount, prices on this side went better. Consols are quite steady, and show a rise of 5*s*. on the week, the advance of that amount having been made to-day. India Four per Cent. quote 1*l* lower. Foreign Government Loans, &c., have received some attention to quotations, with an adverse balance of change.—Higher: Mexican Three per Cent. (5*l*), 1*l*; Portuguese, 1*l*; and Spanish, 1*l*.—Lower: Argentine Hard Dollar Bonds, 2*l*; Egy. United, 1*l*; ditto, Preference, 1*l*; Turkish (Group 4), 1*l*; Peruvian Six per Cent. (7*l*), 1*l*; and Italian (5*l*), 1*l*. Some other fluctuations have occurred, but figures having settled quote no change for the week. Colonials, besides alterations consequent on prices being quoted ex-dividend, show no variations, save in the case of Victoria Four per Cent. Inscr. which mark 1*l* better. Home Corporation Stocks, &c., are unaltered, except Liverpool Three-and-Half per Cent., which have recovered 1*l* to 1*l*. The changes in values in the several departments of miscellaneous are comparatively not numerous, nor is the balance sufficient to evidence decided leaning for or against.

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INSURANCE.—Messrs. J. S. DAVEY, mine share-dealer, Camborne, writes under date November 5:—The actual business recorded during the week is not large, and is somewhat desultory, as, excepting here and there, the business of each day has not often amounted to more than solitary transactions, so far as regards home rails. The loss of a day by the usual November holiday has assisted at decreasing the aggregate for the week; but, apart from this, the volume is small. The movements in rails have been more specific than general. In several instances where special influences have been at work activity in diverse directions has occurred; but this has not pervaded the whole market, as is the case when something occurs to affect values all round. In such a state of things no distinct gauge can be made of the tendency of the market as a whole; all that can be said is that perhaps the balance of movement is on the favourable side to some small extent. This favourable balance might have been more pronounced probably, but the only approach to a universal change occurred on the publication of traffic, which, being far from encouraging, brought some depression on the whole market. American rails have been peculiar in that they have not altogether followed figures from the other side, as on Friday and Saturday last, though quotations from New York showed reductions varying in amount, prices on this side went better. Consols are quite steady, and show a rise of 5*s*. on the week, the advance of that amount having been made to-day. India Four per Cent. quote 1*l* lower. Foreign Government Loans, &c., have received some attention to quotations, with an adverse balance of change.—Higher: Mexican Three per Cent. (5*l*), 1*l*; Portuguese, 1*l*; and Spanish, 1*l*.—Lower: Argentine Hard Dollar Bonds, 2*l*; Egy. United, 1*l*; ditto, Preference, 1*l*; Turkish (Group 4), 1*l*; Peruvian Six per Cent. (7*l*), 1*l*; and Italian (5*l*), 1*l*. Some other fluctuations have occurred, but figures having settled quote no change for the week. Colonials, besides alterations consequent on prices being quoted ex-dividend, show no variations, save in the case of Victoria Four per Cent. Inscr. which mark 1*l* better. Home Corporation Stocks, &c., are unaltered, except Liverpool Three-and-Half per Cent., which have recovered 1*l* to 1*l*. The changes in values in the several departments of miscellaneous are comparatively not numerous, nor is the balance sufficient to evidence decided leaning for or against.

COAL, IRON, &c., AND MINING.—Business slow, but more recorded than of late. Prices show lower balance of variations.

COTTON SPINNING, &c., get no aid from trade reports, and consequently values droop, though not severely.

TELEGRAPHES.—Hardly anything done here. Anglos of all issues lower. Globe Ordinary 5*s*.

TELEPHONES quiet; but course of prices show firmness.

MISCELLANEOUS.—Union Plate Glass mark decided fall. Hudson's Bay lower on loss of a vessel in which they are interested; but as later accounts have reduced the probable loss to them their figures have regained somewhat from the time of the accident.

RAILWAYS.—Beyond a decided gain on North British, there is very little to report. Taken altogether, figures are somewhat better, and probably would have shown still better had it not been that traffic showed up but poorly, and consequently some depreciation occurred on their publication. In Canadians, Trunks do not exhibit much actual change on the week, but what there is is favourable. Americans better on the whole after some oscillations. Mexican Railways decidedly stronger on their dividend announcements.

SCOTCH MINING AND INDUSTRIAL COMPANIES

SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, stockbroker and ironbroker, under date November 5 writes:—During the past week the market has been quiet, but prices are generally better. The prospects of a peaceful settlement of the difficulties in South-Eastern Europe, an improvement in trade, and the easy state of the money market are all in favour of prices improving.

In shares of coal, iron, and steel companies the principal alteration is an advance in Cairnthal Coal to 7*l*. The meeting of the Vancouver Coal Company will be on November 10*th*. Bull's Iron, 7*l*. to 8*l*; Bilbao Iron, 7*l*; Chapel House Debentures, 15 per cent.; Cardiff and Swansea, 15*l*. to 20*l*; and Steel Company of Scotland, 7*l* to 7*l*.

In shares of foreign copper concerns prices do not show much alteration. Tharsis have been sold from 7*l*. 6*d*. to 8*l*. 6*d*. Bratsberg are 7*l*. 6*d*. to 8*l*. 6*d*. and Tocopilla, 1*l*. 6*d*. to 2*l*. 6*d*. Mason and Barry, also Rio Tintos, both easier.

In shares of home mines prices are steady. There is, however, some appearance of a recovery in the metal markets, which should bring about an advance. The meeting of the Wheal Bassett will be held to-morrow. Glasgow Cardrons are firmer at 2*l*. to 3*l*; Ectons, 22*l*. 6*d*. to 27*l*. 6*d*; Leadhills, 40*l*. to 45*l*; New Kitty, 22*l*. 6*d*. (call paid); Prince of Wales, 7*l*. to 9*l*; Van, 22*l*. 6*d*. to 35*l*; and Weardale, 24*l*.

In shares of gold and silver mines there has been a considerable amount of business done, especially in Indian descriptions. Montanas have been sold from 4*l*. 3*d*. to 4*l*. 6*d*. A new American Mine—the Russell—is commencing to make returns, and is well spoken of. Organics attained a good rise at 15*l*. to 17*l*. 6*d*. on the satisfactory report from the mine. The return is over 1*oz*. of gold to the ton, and 20*000* ft. has been remitted to this counter. Nundydroog Debentures wanted. Aukanon are 1*l*. 6*d*. to 2*l*. 6*d*; California, 2*l*. 6*d*

QUEENSLAND'S GOLD FIELDS.

The splendid average yields from the several gold fields now in operation augur well for the future prosperity of the gold mining industry in this extensive colony, which is destined to play an important part in the financial world. The reports of the Wardens of the various gold fields show a large increase in the output of gold. Gympie, the oldest and chief gold district in the Southern Division, attains the premier position for the year, its output being 112,051 ozs. of gold, being an increase of 47,233 ozs. on the yield of 1883. As an instance of the magnificent results of crushing operations we find that 62,085 tons gave an average of 1 oz. 15 dwts. 17 grs. per ton, the average number of miners employed being 1450, and their earnings averaging 255*l.* per man. The following are some of the principal crushings from different companies during the year 1884:—

	Quantity—Tons.	Yield—Ozs.
Wilmot Extended	3,775	28,050
No. 1 North Phenix	15,282	17,352
Phoenix P.C.	10,479	9,692
Golden Crown	2,741	1,351
North Glannire	2,321	3,395
3 and 4 North Glannire	9,560	8,674
1 South Wilmot	1,101	13,338
Ellen Harkins	3,177	14,728
Glannire Prospectors	1,047	826
7 and 8 Monkland	2,861	1,806
2 and 3 South Smithfield	5,093	5,217
Lucknow P.C.	753	2,335
3 North Phenix	1,620	1,003

The Warden's report on this splendid field is very short, and compressed within 30 lines. Whether his duties are heavy, or whether he is one of those well-paid officials who take but little interest in the gold fields under his charge, we do not know; but with such a magnificent record of crushings we certainly think he might have found time to give a little more detailed information as to the depths of shafts, the average thickness of lodes, and the general prospects of the district—a class of information that would be important to others outside of Gympie.

CHARTERS TOWERS AND CAPE RIVER.—This district also gave a splendid result for the year of 109,335 ozs. of gold, or 57 per cent. above that of last year's yield, and although a long continued drought has prevailed, great progress has been made in development. More attention has been paid to the conservation of water, consequently the mills were not stopped during the drought, and also to improved gold saving appliances; and the Warden of this gold field, who has given an intelligent and fuller report, anticipates a still greater return for this year, as the first four months has already produced 41,084 ozs. of gold. The resources of this field are enormous, and will well repay a judicious expenditure of capital and labour in systematic development. The crushings from 12 of the principal mines are here given:—

Claims or leaseholds.	Quantity Tons.	Yield. Ozs.	Average. Ozs. dt. gr.
Day Dawn P.C., leasehold	11,331	30,130	2 19 4
Day Dawn Block, leasehold	7,255	15,956	2 3 23
Queen, leasehold, No. 2, S.W.	4,992	10,072	2 0 8
Queen, leasehold, No. 5, N.E.	886	1,543	1 14 9
Queen, leasehold, No. 6, N.E.	2,397	7,505	3 2 14
Dan O'Connel, leasehold	509	2,037	4 0 0
Hope Gold Mining Co., leasehold	1,756	1,966	1 2 9
Victory Gold Mining Co., "	1,242	3,364	2 14 3

Rise and Shine Gold Mining Company, leasehold 1,679 1,495 0 17 19 St. Patrick Block, leasehold 1,423 1,732 1 4 7 Eastward Ho, leasehold 460 1,535 3 6 8 North Australian 1,664 3,571 2 2 22 giving a general average of 2 ozs. 5 dwts. 11 grs. for nearly 40,000 tons of quartz taken at depths varying from 200 ft. to 1000 ft. The width of the reefs vary from 6 in. to 12 ft., and as is usual in granite countries, subject to frequent variations, but the average all through may be stated at from 18 in. to 2 ft. The number of miners actually employed in vein mining is 1120, and the produce per man 94 ozs. 17 dwts. of a money value of 32*l.* 2s. 4d. The Warden says this is so very far in advance on former years that he draws attention to the fact, as it demonstrates more clearly than anything else could do the vast stride made in the productiveness of this field, especially as 200 of the above number of miners were engaged in deadwork, and not adding to the immediate output of gold. The rate of wages has undergone no alteration since his last report, and remains at 3*l.* for 5*1* shifts of ordinary work, with proportionate increases for responsible and skilled positions, excessively wet work, or distance from town; experienced and steady men are never long out of employment. The crushing machinery consists of 14 mills, running 202 head of stamps. Many different opinions are expressed relative to the actual amount of gold that is lost in the treatment of auriferous ore on this gold field, but taking the result of rational enquiries made by experts, and also reliable assays of the sands taken from below the machines it is estimated the loss is less than 15 per cent. The principal difficulty in the way appears to be the presence of lead in large quantities in the richest ores. Stone without galena here usually turns out poor, and the low smelting point of the latter ore prevents the thorough desulphurisation by the ordinary process of roasting. Hence the affinity of the solvent gold chlorine cannot assert itself to its full extent, and therefore the most thorough and effective method of gold saving known to science is not likely to give in practice the usual high results. As, however, chlorination has never been tried here yet, so far beyond laboratory experiments, there is a possibility, that, if the works that are now contemplated are once got under weigh, processes may be devised that will remove the present apparent difficulties. Many others, and many of them quite new, processes are spoken of that are to obviate the loss of gold hereafter, and it is to be hoped that some method may be devised that in practice will reduce the escape of gold which the Warden estimates amounts, in money value to quite 50,000*l.* per annum, to a minimum. The amount is such a large one that the solution of this question is well worthy of the immediate attention of the metallurgists and the inventor of a successful process will benefit the field and himself immensely. The Palmer and Hodgkinson gold fields have both suffered from drought and dearth of population to develop the rich reefs known to exist in these fields. A little more energy and business tact in the organisation of capital and labour to work in unison with each other would soon make a great difference in the production of both of these fields. On the Hodgkinson field 7750 tons of quartz were reduced, yielding 6942 ozs. of gold, averaging 17 dwts. 2*1* grs., value 25,044*l.* 6s. 9*d.*, the average earning of the miners being estimated at 143*l.* 18*s.* 5*d.* per man. Mulgrave show signs of permanent improvement, good reefs having been found, and machinery being erected. A crushing of 29 tons of stone produced the large result of 230 ozs. of gold, and the stone now raised is expected to exceed that average.

RAVENSWOOD.—This field shows a satisfactory increase (considering the drought), which it is anticipated will be continued during the present year. Progress made in the development of gold and silver, and should the new smelting works in course of erection prove successful in extracting the gold from the mundic, which is most refractory on this field, a large area of at present unprofitable ground will be opened up and many gold bearing

reefs developed. Etheridge and Woolgar shows an increase of 919 ozs. The severe drought last year considerably retarded operations, otherwise the returns would have been still more satisfactory. An increased quantity of quartz crushed and many valuable discoveries made. More machinery is much required, there being a large quantity of stone available for crushing. The long distance from the coast and the heavy cost of carriage militates against the progress of the field, which is wonderfully rich in gold and other minerals. Cloncurry, Peak Downs, and Nebo fields have made but little progress in gold in consequence of the drought. Rockhampton fields show the large increase of 16,568 ozs. over the previous year, which however is to be accounted for by the extraordinary richness of Mount Morgan. With the exception of this mine little has been done in other places in consequence of the scarcity of water, but a good deal of prospecting has been carried on with satisfactory results. There are plenty of auriferous reefs about the district, but what is wanted is population, machinery, water, and capital judiciously expended.

GLADSTONE FIELDS.—There was a considerable increase in the yields, the crushings giving an average of nearly 2 ozs. to the ton, but water and machinery is also much wanted in this district as well as many others.

The large area of country in Queensland over which gold is distributed in such marvellous quantities renders it one of the most important sections of the British Empire, and no opportunity should be lost by the Government and local bodies to initiate and carry out such works of public utility, in the shape of railways and water supply, as would tend to the development of the numerous rich fields of auriferous wealth capable of affording profitable employment to tens of thousands of miners, and there is no reason why the yields of gold cannot be doubled or trebled from what it is now, and there is no doubt that Queensland must soon become a great factor in the supply of gold.

THE GOLD AND DIAMOND FIELDS OF SOUTH AFRICA—No. XXVII.

BY THOMAS COLLINGWOOD KITTO, M.E.

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The Lisbon-Berlyn is a property which is capable of producing sundry "flashes in the pan," but the methods they would have to resort to would place them in the same category as those who play with loaded dice; consequently no person will ever be found in the pious Transvaal naughty enough to cause any flashes in the Waterfall pan. But, oh! this is such a wicked world that if an accident of the kind were to happen the chances are that some evil-minded persons would look on it with suspicion. The few auriferous gash veins at Waterfall have a longitudinal bearing from north-east to south-west. They vary in thickness from a mere division of the rock up to 6 in. or 7 in., the average breadth being from 1*1* in. to 2 in. All those branches taper off to a point at each end as well as in depth. I could not discover a single branch that continued more than 20 ft. in one line, but it sometimes happened that the thin point of one vein overlapped the thin point of another. Those branches have no continuity, and are of the most uncertain character. According to the general acceptance of the term there has not been a single quartz reef or lode discovered on the property. There was on one of Mr. Hampson's claims a deposit of quartz which a few novices took to be a big quartz reef, and the diggers called it a big blow, but less than 5*l.* spent under my own direction proved this "big blow" to be nothing but a superficial deposit of slightly auriferous quartz of no intrinsic value. Although there were two or three other diggers loafing about Lisbon-Berlyn the only claims that were being worked were those of Davis, Hampson, and White, and the modes of working adopted by each were identical. Mr. Davis had a water-course of his own, and Hampson and White constructed a water-course 2 miles long in hard rock, and at the point where it discharges the water on the claims it had a fall of over 400 ft. When I was there it was discharging 200 miners' inches of water, so that if there was a shadow of truth in the Lisbon-Berlyn statements it should have paid handsomely from the outset even without Davis's watercourse and claims, and without any of the machinery that was foolishly sent out. It will be seen from the above figures that Hampson's and White's water-course alone was capable of disposing of at least 1000 tons of alluvial deposit per day; and if Davis's discharged the same quantity of water 2000 tons could have been disposed of with ease, and all at a very small cost, because the necessary deadwork had already been completed by those diggers and their friends, and at the time the "Pious Boer Government" confiscated their property they were getting all the gold out of their property that it was capable of producing. Investors frequently ask why the company do not get gold the same as the old diggers? They do; there has been as much gold—small as the quantity is—taken out since the company commenced operations as at any time previously, but what is considered a fairly good thing for a couple of old diggers is of very little practical use to an inordinately overweighted company empirically conducted.

It is well known that gold digging has a peculiarly captivating influence, and that those who search for the precious metal on their own account invariably work like Trojans. Morning, noon, and night they are ever on the look out for the precious metal, unless when actually asleep, and even then they dream of leads, lodes, leaders, and nuggets, and the best means of procuring them. I remember well my early digging days; we did work, were very jolly, and were well able to take care of ourselves, and I am quite sure if any of the Transvaal vultures who have preyed so voraciously on the financial vitals of the British public had crossed our path we should have made very short work of them. It must not be inferred that diggers are cruel; on the contrary, under a rough exterior they have kind hearts; but they are not easily imposed upon, especially by canting renegades who sometimes wriggle across their path, with an assumed odour of sanctity on their visage, greasy coats, rusty umbrellas, and two-year-old hymn-books under their arms. These pests follow in the trail of the digger, like rabble in the train of an Eastern army. By occasionally referring to matters of this kind I hope to make my readers fully acquainted with the true character of the honest gold digger.

The gash veins on the Lisbon-Berlyn property were so contracted generally that there was only room for one or at most two white men with the usual complement of blacks to work at a time profitably. Assuming the vein to be 8 in. broad, which is much above the average, the digger in working it out would be compelled to work out an additional 12 or more inches of the unproductive rock by the side of the vein, so as to make sufficient room for him or them to follow it as long as it lasted. Those veins, as a rule, turned out about 20 tons, more or less, of ore, which was exceedingly porous and honeycombed; the gold was coarse and very showy, and was easily liberated from the honeycombed quartz by breaking it with hammers, and then washing it in the ordinary way. In fact, so much of the gold was recovered by this simple process that none of the stuff would pay for retreatment. In the ordinary way in a fairly good vein two whites and eight blacks could recover about 10 tons of ore per month of a total value of 37*l.* 10*s.* The cost of food and labour of the blacks would be about 16*l.*, and the other cost (say) 1*l.* 10*s.*, thus leaving 20*l.* to be divided between the two white men; on

this amount diggers would work on contentedly to the end of the chapter with the hope of finding something better. To recover this quantity of gold, including expenses in England, would cost the company at least 1000*l.*; and I give this as a nut for investors to crack. The above is, with two exceptions, a fair estimate of what may be considered the small auriferous patch on the Lisbon-Berlyn property. Those exceptions consisted of a small bit of ground in one of Davis's claims, and another small bit in one of Hampson's claims, less than one square chain each. Davis found a comparatively rich patch; but it was soon exhausted after the company got possession. Hampson's was much the same, but they had been so long exploring and doing deadwork that the "Pious Boer Government" robbed them of the results of their labours before they derived any benefit from it. It will be seen from the foregoing that the Lisbon-Berlyn is a property where hard working experienced gold diggers who look carefully after their own blacks may earn a little gold; but even for them the occupation is exceedingly precarious, as they themselves say the lines disappear with a blow of their pick, and I say advisedly that 10 white diggers, with their usual complement of blacks, would considerably overstock the place. This property is quite as inaccessible as Pilgrim's Rest, and even if there were permanent auriferous lodes there like California and Brazil, which I regret to say there are not, the cost of winning the gold would be such as to place it outside the list of profitable investments.

Ever since they commenced to blow the Transvaal bubble I have, with the assistance of the *Mining Journal*, constantly warned the British public against the systematic impositions which were being practised upon them, and in October and November two years ago I distinctly stated that large as the capital of the Transvaal companies was they would all be in liquidation in less than three years; for this I have been Boycotted in manner which would be injurious if I cared a fig for it. I am fully conscious of being a thorn in the flesh of mining mountebanks, and it is my determination to prick them hard, for it is not only a public scandal, but it is incomprehensible that individuals who know no more of mining than the "man in the moon" should, through mere audacity, be able to obtain millions of British capital through what is nothing but a gigantic confidence trick. A person may stand up in the Lisbon-Berlyn meeting and challenge any person to prove that the property does not contain thousands of tons of gold, with no more reason for doing so than he would by challenging them to disprove that there was not an equal quantity of the precious metal beneath the office floor in which the meeting was being held; but he must have implicit confidence in the gullibility of his audience before he tries to mystify them with such silly jugglery. I have always written that the auriferous veins in the Transvaal are showy and treacherous—for English capital they are a "bottomless pit," or as some say, "a veritable horse leach ever crying give, give." It has been abundantly demonstrated that the Lisbon-Berlyn property is of no value, and I am pleased to find that those papers which two years ago so roundly abused me for placing the truth before the public are coming round to my views, and some of them are laying the flatteringunction to their own souls without having the honesty to acknowledge the source from which they obtained the ointment. It will be instructive to many of my readers when I inform them, as I have on previous occasions, that there is ten times more gold in the debris heaps and tailings of the St. John del Rey Mines, Brazil, than there is in all the Transvaal. I have not yet referred to the manufactured mines of the "Pious Boerland," but will do so in the next issue, and probably make some reference to the means by which the most experienced experts are apt to be tricked by placing confidence in the vendors of properties whom they believe to be as honest as themselves.

THE HARTLEY COLLIERY RELIEF FUND.

The following is the cash account and balance-sheet of the Hartley Colliery Accident Relief Fund from the 1st March, 1885, to the 31st August, 1885:—

To balance as at the 28th February, 1885:—

India 4 <i>l.</i> per Cent. Stock	£25,965 17 11	£28,620 13 11
3 <i>l.</i> per Cent. Consols	2,392 11 1	

£28,358 9 0

Balance on current account with Woods and Co.

262 4 11

Receipts since 28th Feb., 1885:—

Interest on investments:—

Dividend on India 4*l.* per Cent. Stock

496 1 10

Dividend on 3*l.* per Cent. Consols..

37 7 10=

533 9 8

£29,154 3 7

Expenditure from 28th February, 1885, as follows:—

Allowance of relief to widows, adults, and others £ 633 16 6

Medical attendance 20 17 0

Allowance in respect of deaths 3 0 0

Allowances to men attending committee meetings and expenses 0 10 0

Secretary's salary 50 0 0

Postages, post-office orders, bankers' commission, and petty expenses. 2 14 3

Expenses—Sale of 2500*l.* East India Stock, and reinvestment in Consols, 2546*l.* 16s. 3 9 10= 714 7 8

Balance, as per particulars below 28,439 15 11

£29,154 3 7

Particulars of Balance:—

By investments: £23,049 15 3 India 4*l.* per Cent. Stock ... £23,415 11 85,125 8 8 3*l.* per Cent. Consols 4,939 7 5

£28,175 3 11 £28,354 19 1

Balance

MINING ASSOCIATION AND INSTITUTE OF CORNWALL.

PAPER AND DISCUSSION ON THE CORNISH SYSTEM OF DRESSING TIN ORE.

A meeting of the members of the Mining Association and Institute of Cornwall was held on Monday evening at the rooms of the society, Camborne, when a paper was read by Mr. R. J. FRECHEVILLE, Assoc. Mem. Inst. C. E., H. M.'s Inspector of Mines for Cornwall, Devon, Somerset, and Dorset. The chair was occupied by Captain JOSIAH THOMAS, President of the Association. There were also present—Messrs. W. Pike, Moses Bawdon (Tavistock), T. Pryor, W. Teague, jun., C. Bawdon, W. Rich, W. Rich, jun. (secretary), C. Bawdon, J. Hosking, Hodge, White, Penhall, J. Provis, and R. Provis. Letters apologising for absence were received from Sir John St. Aubyn, Bart., M. P., Canon Rogers, and Messrs. W. Husband, J. Henderson, C. Twite, R. Hunt, and W. Teague.

The CHAIRMAN said the subject they had met to consider was a most interesting and important one, and which had been discussed several times by that society. He thought some improvement ought to be made in tin dressing. He supposed before the discussion that evening was over the Red River would be mentioned. (Laughter.) The tin streamers there got more tin than they should get. (Hear, hear.) He had no doubt Mr. Frecheville, with his great experience, would be able to give them some practical hints as to how they could improve the present system of tin dressing.

Mr. FRECHEVILLE's paper was as follows:—Although several excellent papers dealing with the subject of dressing tin ore in Cornwall have appeared in the proceedings of this and other societies, notably one read by our former President, Mr. James Henderson, before the Institution of Civil Engineers in February, 1858, and one by Mr. Henry T. Ferguson at the meeting of the Institute of Mechanical Engineers at Penzance in July, 1873; still no information has been given either then or since on one most important point—what is the actual loss of black tin experienced in dressing? During the last five years I have made many enquiries of our leading mine agents and tin dressers bearing on this subject, but have been unable to obtain from them precise information founded on reliable data. Some of our critics taking the annual production of the tin streams as a test, do not hesitate to assert that our dressing operations are excessively wasteful. Ask these same gentlemen, however, how much of the contents in black tin of the ore dressed is saved at the mines, how much by the stream works, and how much is finally lost, and you will find that they are unable to answer you, and are therefore quite incompetent to speak of the efficiency or non efficiency of the processes employed. It is the object of the present paper to unravel the mystery surrounding the subject, and answer these questions. As you are all well aware, the collection of the annual returns of the production of tin ore from the mines, stream works, &c., of this district for the Mineral Statistics of the United Kingdom forms part of my duties as Inspector of Mines. I have thus had unusual facilities for obtaining the data necessary for this investigation. That the loss by the processes to which the tinstuff is subjected at the mines is very considerable is proved by the fact that during 1884, 1326 tons of black tin sold to the smelters for 41,053, were obtained from the tin streams in the parishes of Camborne, Illogan, and Redruth alone. That even then the sands and slimes escaping from the mines were not perfectly untinned the dressing operations carried on at Gwthian and Portreath beaches plainly indicate. Many imagine that the stream-works which furnished the above quantity of black tin are all situated on the Red River. This is not the case. There are two separate and distinct rivers fed by the discharge from the dressing-floors of two separate and distinct groups of mines. One of these rivers, which I will call for the sake of distinction the Redruth river, flows along the southern base and eastern flank of Carn Brea Hill, passes to the west of Redruth by the east of Wheal Agar stamps, and then continues its course northwards to the sea at Portreath. The mines that contribute to it are West Basset, Wheal Basset, Wheal Uny, Wheal Agar, &c. During 1884 172 tons of black tin, which realised 6039, were obtained from it. The remaining, and by far the most important, stream, known as the Red River, which I take as an example in working out the problem before me, rises in Bolenow Moor to the south of Carn Brea Hill, and runs clear until it is joined by the water from the dressing-floors of South and West Frances Mines. It then flows northwards between Carn Entral and Carn Arthur, through Brea and Tuckingmill to Roscroggan, at which place it turns to the west, and continues on this course through Reskinnick, Coombe, Menadarva, and Reskajeage to the beach at Gwthian, where it empties into St. Ives Bay. As far as Coombe it forms practically the boundary between Camborne and Illogan parishes. From source to mouth its length is between 7 and 8 miles, and over this distance the various stream-works succeed each other almost without intermission, and produced during 1884 1154 tons of black tin, which was sold for 35,016. (No tinstuff purchased from the mines was treated on the Red River during 1884.) With respect to the quantity of sands and slimes that the above amount of black tin was obtained from, the following table gives for 1884 the names of the mines that discharged the waste from their dressing-floors into the Red River, the number of tons of tinstuff of 21 cwt., dry weight, stamped and dressed at each mine, the black tin obtained therefrom in statute tons, and the value of the same:—

	Number of tons of tinstuff	Black tin obtained in	Value of the
	of 21 cwt., each stamped	stamped	ore at the
	and dressed.	statute tons.	mine.
West Basset, old stamps	2,000	30	£ 1,273
West Frances	9,360	394	17,849
South Frances	15,000	434	19,861
South Condurrow	23,361	546	26,032
Wheal Grenville	19,227	463	22,174
Cook's Kitchen	12,312	176	8,935
Dolcoath	66,300	2423	113,965
South Crofty	8,673	169	7,143
East Pool	45,982	1573	69,343
Tincroft	29,930	456	19,705
Carn Brea	44,858	464	20,247
West Seton	10,650	204	9,238
Totals	287,653	7332	£334,865

For the figures giving the number of tons stamped, I am indebted to the courtesy of the managers of the various mines. It is the custom to reckon 1 ton of tinstuff as 21 cwt. dry weight, in addition an allowance for water varying from 1 to 2 cwt. is made, so that the ton of tinstuff delivered to the dresser actually weighs from 22 to 23 cwt. In the assay of the samples the black tin is calculated for the ton of 20 cwt., and is weighed dry; whereas the dresser returns the black tin moist, containing on the average 7½ per cent. water. All this is so strongly in favour of the dresser, that there is no difficulty in understanding how he manages to return as much black tin as the stock-book shows, and occasionally even more. Now, reducing the total number of tons stamped to statute tons for the sake of dealing with uniform weights, and deducting from these statute tons the black tin obtained at the mines, as well as an estimated amount of 10,000 tons of sand, which was placed on the barrows at Tincroft owing to a lack of water to carry it away from the floors, we get 284,703 statute tons as to the quantity of sands and slimes that were discharged into the Red River, thus:—

287,653 tons of 21 cwt. = 302,053 statute tons.

Subtracting from these latter figures the 1154 tons of black tin returned from the Red River gives 283,549 tons as the quantity of sands and slimes emptied into St. Ives Bay. In order to estimate the total contents in black tin of the ore stamped and dressed at the mine it is necessary to know how much escaped, and was irrecoverably lost in these 283,549 tons. To ascertain this I caused samples of the flow of the river to be taken from a point below the last stream-works at different dates, extending over the whole of 1884. These samples were taken by lowering buckets to the bottom of the stream, instantly pulling them up again, and then allowing the contents

ample time to settle before pouring off the water. In this way 60 samples were collected, and were assayed for me by Captain John Moyle, of South Condurrow Mine. These assays gave a produce varying from a trace up to 23 lbs. of black tin per ton of stuff. A produce of 1½ lb. per ton would be a fair average of the lot, so that the quantity of black tin carried into St. Ives Bay by the 283,549 tons of sand and slimes discharged therein by the Red River during 1884 amounted to no less than 190 tons. We can now easily arrive at the actual contents in black tin of the 302,053 statute tons of tinstuff stamped and dressed at the mines, as well as its market value, and the average price per ton realised for both mine and stream tin ore, thus:—

	Statute tons.	Average price per ton.
Black tin obtained at the mines.....	7,332 sold for	£334,865 ... £45 13 5
Black tin obtained from the stream-works.....	1,154 sold for	35,016 ... 30 6 10
Black tin locked up in 10,000 tons of sand in Tincroft burrows	14 [estimated value at 40% per ton.]	560
Black tin finally lost in St. Ives Bay	190 [estimated value at average price of stream tin ore]	5,765
Totals	8,690	£376,206

From the above it appears that the tinstuff originally contained 64,44 lbs. of black tin per statute ton. Of this amount 54:37 lbs., or 84:37 per cent., was saved at the mines, 8:55 lbs., or 13:27 per cent., by the stream-works, 0:11 lbs., or 0:17 per cent., remains locked up in Tincroft burrows, and 1:41 lbs., or 2:19 per cent., was lost in the sea. It must, however, be taken into consideration that the black tin obtained from the stream-works is not of the same value as that obtained at the mines. During 1884 the average produce in metal of the latter was 66 per cent., and of the former 53 per cent only; so that it is more correct to make the above calculations on the basis of the market value of the ore. Thus, of the 376,206, worth of black tin contained in the tinstuff dressed, 334,865, or 89 per cent., is to be credited to the mines, 35,016, or 9:3 per cent., to the stream-works, and the balance, 6325, or 1:7 per cent., constitutes the loss. All who have a practical knowledge of ore-dressing must admit that the saving by the mines of 89 per cent. of the value of the stuff treated is a very good result indeed—in fact, much better than I had anticipated that it would turn out to be when I commenced making this enquiry. (Hear, hear.) Nevertheless, I believe that it is possible in some slight degree to further increase the efficiency of the process; but before making any remarks under this head I will direct your attention to its costs. I have gone very carefully into this matter at two of our leading mines, and find that, including every charge from the time that the tinstuff is delivered to the stamps until the ore is ready to be sent to the smelters, the cost amounts to 5s. per ton of tinstuff dressed. This includes a charge for repairing the floors, but not for depreciation in value of machinery. Adding 2d. per ton for this item would make the total cost 5s. 2d. per ton. This is the weak part of the process. The cost, owing to the large amount of manual labour employed, is too high, and in these days of improved machinery of all descriptions should most certainly be reduced. During 1884 the mines that contributed to the Red River employed 4725 persons; of these 2571 worked at surface, and 2154 underground. Of the surface-hands 75 per cent, or 1928 persons, were engaged on the dressing-floors. Labour is cheap and plentiful in Cornwall, so that there is not the same necessity as exists in some other countries—the United States, for instance—of introducing automatically-worked machinery; but I am strongly of opinion that the employment of such an excessive amount of manual labour is an abuse of our advantages, and not in keeping with the scientific progress of the age we live in. I am not an advocate of sweeping changes; our system of tin-dressing is of native growth, and naturally in many ways eminently suitable to local conditions; but I think certain details and appliances can be grafted on to it which will tend both to increase its efficiency and diminish its cost. In this connection the following suggestions occur to me:—In the first place, as pointed out by Captain William Rich, in a paper read before this institute, constant assays should be made by an independent man of the sands and slimes leaving the floors. This would act as a check on the dressers. An abundance of clear water is essential for good dressing. Unfortunately the supply is deficient at our richest tin mines; could it not, however, be supplemented by constructing reservoirs in suitable localities? Blake's stone-breakers, although excellent and well-proved machines, are not nearly in such common use in the county as they should be; too much reliance is still placed on the muscular arms of our maidens. There can be no doubt but that great economy in stamping would result from the employment of Husband's oscillating cylinder stamps. For a description of these stamps by Mr. Loam, and for an account by Mr. Derry, on results of their working at Owen Vean and Tregurtha Mines, I must refer you to the last volume of our "Transactions." The treatment of the stamped stuff should invariably be preceded by classification—that is, not only should the slime be separated from the sand, but the latter should be sorted according to the different size and weight of the grains. For this purpose funnel or pointed boxes are very suitable, if with an upward current of water, like those in use at Wheal Grenville, so much the better. They can be arranged so that each box delivers a certain size of grains to the buddies or other dressing machines employed, whilst the slimes flow over the end of the last box, and can be carried direct to the slime dressers or frames. Taking into consideration the fineness to which the stuff is reduced by the stamps, a division into three classes—namely, sands, middle-fine sands, and slimes—would be amply sufficient. When the stuff is discharged from the stamps pell-mell into a bundle, as is the practice at many of our mines, much of the slime passes to the tail; and not being saved by the subsequent operations to which this is subjected, finds its way into the Red River. As the strips were wont to be universally used in front of the stamps to a certain extent classified the stuff, their abandonment is decidedly a retrograde step in dressing. These strips are, however, by no means to be compared in efficiency to the pointed boxes; and besides, the stuff deposited in them has to be shovelled out by hand, whilst from the pointed boxes it is delivered without expense at any point required. At all of our mines separators for classifying the stuff are employed below the slime-pits. Ask any of our dressers why they use them, and they will tell you it is because they find it impossible to obtain good results by dressing the sand and slime together; yet to judge by their practice one would imagine that directly in front of the stamps they believe the laws of specific gravity to be suspended. For the treatment of the coarser sand delivered by the pointed boxes, I would recommend the employment of Rittinger's double side-blown percussion table, a description and drawing of which is contained in a paper by myself, "On the Mining and Treatment of Gold Ores in the North of Japan," published in volume 75 of the Minutes of Proceedings of the Institution of Civil Engineers. The table is perfectly automatic in its action, and will give three products—ore fit to be sent to the calciner, ore associated with vein-stuff for the pulverisers, and valueless waste. It is the best continuous working machine yet invented for dealing with the coarser portions of stamp work. Borlase's bundle is well adapted for the middle fine sands, and for dressing the slimes; the Cornish frame is an excellent appliance, especially when carefully constructed and arranged like those to be seen in the stream-works of Mr. John Williams, at Tuckingmill. A great deal has been said of late years about the wonderful results that would be obtained if jiggers were used in dressing the tinstuff with the object of ascertaining if these assertions are well founded, I have taken several mines samples of the stuff just as it passed through the stamp-gates which in each case were of the size known as No. 36, the perforations of which are 0:28 of 1 in. in diameter. These samples were dried, weighed, and assayed. They were then sifted through a sieve with 80 holes to the linear inch. The portion that remained on the sieve, and the portion that passed through, were carefully weighed

and assayed; the former being assayed without bruising or pulverising, as well as with bruising, my contention being that the extra amount of tin ore washed out after bruising is enclosed in particles of gangue, and would mostly be discharged with the tails of the jiggers. As these experiments also throw some light on the disposition of the black tin in the stamped tinstuff, I give them in full in the accompanying table:—

South Condurrow. East Pool. Dol-

Contents in black tin per ton of stuff leaving	coffers	lbs. 235	45	45
"A" percentage of stuff that passed through	80 sieve.....	Per cent. 61	62	62
"B" percentage of stuff that remained on	sieve	39	38	38
Produce per ton in black tin of "A"	lbs. 330	63	65	65
Produce per ton in black tin of "B"	78	25	25	25
Produce per ton in black tin without bruising	33	11	11	3
Quantity of blacktin in each ton of stamped				
tinstuff locked up in particles of gangue	45	14	6	6

It will thus be seen that these samples of stamped tinstuff contained from 6 to 45 lbs. of black tin per ton, that owing to its physical condition would be very unsuitable for concentration by jiggers. The results obtained in these experiments are to a certain extent confirmed by the assay of some samples that I took from Wheal Jane jiggers when that mine was in operation. Two samples of the classified sands entering the jiggers assayed at the rate of 22 and 25 lbs. of black tin per ton of stuff, the hutchwork at the rate of 2 owt. black tin per ton, whilst the tailings leaving the jiggers, and which passed to waste, gave a produce of 7 lbs. of black tin per ton. Now, with Rittinger's side-blown percussion tables these particles of black tin associated with gangue would be given off as a middle product between the ore fit to be sent to the calciner and the waste, and could be discharged directly into a pulveriser to be reduced for further treatment. Jiggers could, no doubt, be applied with advantage for the treatment of stuff where the grain of the black tin is coarse. Such, for instance, as that produced by Mulberry and Drakewalls Mines, but for the bulk of the ore yielded by our principal tin lodes I do not think that they are likely to prove satisfactory machines. Although several new pulverisers have been introduced during the last few years, there is still room for improvement in this respect. The centrifugal pulveriser of Messrs. Askham Brothers and Wilson, which obtained a first-class silver medal at the Royal Polytechnic Exhibition held at Falmouth last September, appears to be an economical and efficient mill. It is compact, of simple construction, and the wearing parts can readily be replaced. Whether will, however, soon be decided by the trial now being made of it at Dolcoath Mine. In all departments of dressing the object aimed at should be to obtain the highest possible degree of efficiency consistent with the employment of the least possible amount of manual labour, not only on account of the greater cheapness of the work performed by self-acting machines, but also because when the back of the master is turned the quality of the work remains the same. With respect to the stream-works, the 284,703 statute tons of sands and slimes discharged during 1884 into the Red River have been shown to have contained 1344 tons of stream tin ore, representing a money value of 40,781, of which 35,016, or 85:8 per cent. was saved by the streamers; in other words, from stuff containing 10½ lbs. of black tin per ton, the streamers caught 9 lbs. per ton, allowing only 1½ lb. per ton to go to waste; truly an excellent result, speaking volumes in favour of the efficiency of the Cornish frame. (Hear, hear.) It is improbable that the sands discharged into the sea will ever be made poorer than they are at present, but whether the stream works, considered financially, are equally successful is another question. Taking into consideration the rates and dues that have to be paid, the large plant that has to be maintained, and the fact that during 1884 nearly 900 persons were employed on the Red River, it will readily be seen that with the exception of the works immediately below the mine, not much more than a living can be made by the streamers with the present price of tin, and that they will have a very hard time of it indeed. Should the mines eventually succeed in saving an increased percentage of the contents in black tin of the ore raised, any improvement, however, in the efficiency of our dressing operations, or any lessening of their cost, would turn the scales between profit and loss at many of our mines, and since a greater demand for labour would thus be created than exists at present, would prove of immense benefit to the county at large. (Applause.)

The CHAIRMAN felt sure they would all agree with him that Mr. Frecheville's paper was a most valuable one. As far as statistics were concerned it was the most complete and exhaustive paper they had ever heard on the subject of the Red River. (Hear, hear.) They must all have been deeply interested, and very much instructed, in having so many facts placed before them. For many years past there had been a great deal of talking and writing about the amount of tin lost by the mines, but they never had had facts laid before them which were reliable, like those given by Mr. Frecheville. (Hear, hear.) It seemed, according to Mr. Frecheville's account, they were losing about 11 per cent. of the amount of tin as put into the stamps. He (the speaker) had heard it stated as high as 20 and even 25 per cent.; he had said himself they were losing 10 per cent, although, from not having the opportunity, he had never gone into the figures so exhaustively as Mr. Frecheville had done. Captain Josiah believed it was possible to do more at the mines in the way of saving tin than they had yet done. (Hear, hear.) He quite agreed with Mr. Frecheville that it was a very important thing to have clear water for dressing purposes. (Hear, hear.) They had tried to secure this at Dolcoath by means of large reservoirs. Another very important point, which Mr. Frecheville had not mentioned, was larger grates-ways, so that the stuff when stamped might come out freely. (Hear, hear.) The stamp-frames at Dolcoath and some other mines had very small grates-ways, and some of the stuff had to be stamped half-a-dozen times, the result being that the crystals of tin were crushed much below their natural size, and were then liable to be carried away in thick water. At Dolcoath some of the grates-ways were now about 8 in. high, and they found the stuff in stamping was thrown up nearly to the top of the grates, showing plainly that the grates previously used were not high enough. As to classification, many thought whether it was not possible to have a classifier in front of the stamps. He did not know yet a really good classifier. The best he had seen was a circular one driven by a belt, which separated the ore most efficiently. He wrote to the manufacturers of that

of the past. The round bumble up to the present time was the best classifier. As to the pointed boxes the lecturer had referred to, he would be glad to have some information as to the way in which they were made, so that they might be able to form some opinion about them.

Mr. FRECHEVILLE said they could be made at the mines by the mine carpenters. There was very little ironwork about them. The smoother surface they had the better. Good seasoned wood would do, although he believed glass and planed cast-iron had been used. The machine was very efficient.

Mr. W. TEAGUE, JUN., said that as to the classifiers mentioned, they were tried at Tincroft, but were discontinued because they were not considered to be an advantage over the round bumble. He endorsed what Captain Rich and Captain White had said respecting the efficiency of the round bumble. He would not go so far as to say nothing better would be introduced, but at the present time the round bumble was the best thing yet produced. As to the 10 per cent. of tin which went to the Red River, he thought the statement rather misleading, as it would almost give outsiders the idea that it was 10 per cent. of the stuff they dealt with, whereas it was only 10 per cent. in comparison with the amount of black tin saved by the mines.

Mr. FRECHEVILLE said his contention was that, supposing a mine stamped a quantity of stuff containing 100 tons of tin ore, according to his estimate the mine would save 89 tons, and the rest would be sent into the Red River.

Captain RICH said they were very much indebted to Mr. Frecheville for his suggested improvements. Mr. Rich did not believe they were at "the end of their tether" as regards making improvements in their tin dressing. It was a question whether more could not be done in burning ore in a rough kind of kiln.

Mr. FRECHEVILLE, in answer to Mr. HOSKING, said that at Wheal Jane, after jiggers were adopted, they never got the same amount of tin out of the same number of tons of stuff. They said that was owing to a falling-off in the mine, but he rather doubted that being that the tin was lost.

Mr. PIKE proposed a vote of thanks to Mr. Frecheville for his very fair and lucid paper. Although the Mining Association had been in existence many years, that was the first time they had had reliable figures laid before them concerning the Red River. It was a most invaluable paper, and would become an authority and text-book on the subject for the time to come. (Applause.) —Mr. PRYOR seconded the motion. The Institute was under great obligation to Mr. Frecheville for his paper. On reading Mr. Frecheville's paper it would, no doubt, occur to many that 11 per cent. of their tin going into the Red River was a matter requiring immediate attention. He trusted the paper would cause the agents of the mines to look around and see whether they could not save a very considerable portion of the tin now going into other people's hands, while the shareholders in the mines were paying the cost of raising it. (Applause.) The vote of thanks having been carried,

Mr. FRECHEVILLE, in reply regretted that owing to train time having nearly arrived the discussion had been curtailed. He did not say anything about the grates—to which Captain Josiah Thomas had very properly referred because he considered the old stamps, excepting for small mines, and in poor mines which could not conduct their affairs on a proper scale, were a thing of the past, for they were cumbersome and expensive. The American stamps were a hundred per cent. better than the old stamps. After seeing the stamps which are working at Owen Vean and Tregurtha Mines they would never wish to see the old stamps again. As to the classifier he had mentioned with the upward current of water having been tried at Tincroft and then discontinued, he remarked that unfortunately he had seen many excellent machines tried in Cornwall and given up. And why? Simply because if they did not answer at once they were immediately thrown aside. When in Japan he once put up some tables for dressing gold ore. At first he could not get the tables to work. But he had no doubt about them, although he had never seen one, and had erected them simply from drawings. He stood by these tables for 48 hours without leaving them to eat or drink until he made them work. (Applause.) When once they started they worked as with a charm, and were working to this day, but he was nearly broken-hearted at their first refusal to work. He only mentioned the incident in order to show that because an appliance did not answer its purpose at the first off-set it ought not, therefore, to be for ever condemned as useless. (Hear, hear.)

Thanks to the Chairman concluded the meeting.

On Wednesday evening Messrs. Lancaster and Sons offered for sale in Barnsley, the Stanhope Silkstone Colliery, sunk on the Cannon Hall Estate. The colliery, which was sunk in 1869, was sold in 1871 for £80,000, and was resold in 1875 for £50,000. The colliery is complete with the most modern machinery and appliances, and nearly 80 acres remain ungotten. Although offered in its entirety for £50,000, the breaking-up price, no bids were recorded.

SOUTH LANCASHIRE AND CHESHIRE COAL OWNERS' ASSOCIATION.

The annual meeting of the members of the above Association was held on Tuesday, at the Queen's Hotel, Manchester, and the following gentlemen were present:—Mr. W. S. Barrett (President) in the chair; Messrs. W. E. M. Tomlinson, M.P., John Knowles, Clifford Smith, E. Pilkington, A. Pilkington, G. H. Pearce, R. Branker, Edward Walmsley, Walter Simpson, A. C. Boyd, C. F. Clark, H. H. Bolton, W. K. Hewlett, A. Burrows, D. Shaw, R. Fletcher, jun., William Bryham, and John Smith; and Mr. Maskell W. Peace, law clerk and secretary.

The minutes of the last monthly meeting and of subsequent meetings of the finance committee having been read and confirmed, the report of the President for the year 1884-85 was read. This report detailed the work of the Association for the past 12 months, and amongst the principal matters dealt with as having come within the past year's business proceedings were the Railway (Rates and Charges) Bill, 1885, Railway Rates on Coal, Garston Docks Coal Shipping Accommodation; Leeds and Liverpool Canal, High Level, Liverpool, Lancashire, and Yorkshire Railway, St. Helens and Wigan Junctions Railway Bill, 1885, Mersey Railway Bill, 1885, Manchester Ship Canal, Employers' Liability Act, 1880, Amendment Bill, Rating of Machinery Bill, Railway Commission, Recent Legal Decisions Affecting Coalowners, London Coal and Wine Dues, Income Tax on Collieries; Explosives: Guarding of Magazines and Stores, Inspectors of Mines, Royal Commission on Accidents in Mines, Shot-firing in Mines, Royal Commission on the Depression in Trade, and Liverpool International Exhibition, 1886.

The balance-sheet and statement of accounts of the Association for 1884-5 were next read, and also the report of the finance committee, which latter showed that during the past 12 months debts amounting to £457,17s. 4d. had been paid off, leaving a credit balance, after paying off all liabilities, in favour of the Association, of £37,4s. 7d. The amount of subscriptions in arrear was £12. 8s., which when realised would make the balance to credit £687. 12s. 7d.

On the motion of the PRESIDENT, seconded by Mr. A. BURROWS, the report and statement of accounts were approved and adopted.

It was moved by the PRESIDENT, seconded by Mr. RICHARD FLETCHER, jun., and unanimously resolved that Mr. Alfred Pilkington, of the Clifton and Kersley Coal Company, be, and is hereby, elected President of the Association for the ensuing year.

The newly-elected PRESIDENT having taken the chair, and thanked the meeting for his appointment to the office, it was, on the motion of Mr. JOHN KNOWLES, seconded by Mr. TOMLINSON, M.P., resolved that the best thanks of the Association be given to Mr. W. S. Barrett for his valuable services as President during the past year.

On the motion of Mr. JOHN KNOWLES (Chairman of the finance committee), seconded by Mr. W. BRYHAM, the call for the ensuing year was fixed at the rate of 4*s*. per 50,000 tons raised.

The Parliamentary, railway, and finance committees of the Association were then appointed for the ensuing year.

On the motion of Mr. W. S. BARRETT, seconded by Mr. TOMLINSON, M.P., a cordial vote of thanks was passed to Mr. M. W. PEASE, of Wigan (the law clerk and secretary) for his able services to the Association during the past year.—Mr. PEASE having responded, the proceedings terminated.

Afterwards the annual dinner was held, Mr. ALFRED PILKINGTON, the President, occupying the chair. The usual toasts having been duly honoured, Mr. M. W. PEASE proposed "The Health of Mr. John Knowles," as treasurer not only of that Association, but also of the Mining Association of Great Britain. They were, he said, especially indebted to Mr. Knowles, as the result of that gentleman's administration of the proceeds of both Associations had been to make satisfactory credit balances to both Associations; in their own case of a comparatively small amount, it was true, but to the Mining Association of a considerable amount exceeding £1000.

Mr. JOHN KNOWLES having briefly replied, the proceedings shortly afterwards terminated.

On Wednesday the Barnsley magistrates committed William Burgen, furnace man at Tankersley No. 2 Colliery, near Barnsley, to prison for one month, without the option of a fine, for taking matches and a pipe into the pit, where 300 men and boys are usually employed, and smoking in the workings. The deputy overseer, taking off his boots, proceeded to the furnace and caught the defendant smoking.

At Leicester, on Monday, before Mr. Justice Denman, between 20 and 30 men and one woman were indicted for being concerned in the recent Unionist riots at Ilkeston. A dispute occurred at the colliery, and the defendants tried to prevent the non-Unionists from working, destroying much property. The Judge spoke of their cowardly conduct, and they were bound to come up for judgment when called upon.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. AUBREY, of Tokenhouse-yard, are given in tabular form in the stock and Share List page of the Journal.

NEW ORIENTAL BANK CORPORATION (LIMITED).

CAPITAL—Authorised, £2,000,000; Paid-up, £500,000.

LONDON: 40, THREADNEEDLE STREET.

BRANCHES AND AGENCIES—Edinburgh, Bombay, Calcutta, Madras, Ceylon, Mauritius, Singapore, Hong Kong, Shanghai, Yokohama, Kobe, Nagasaki, Melbourne, and Sydney.

The Bank buys and sells bills of exchange, makes telegraphic transfers, issues letters of credit and circular notes, forwards bills for collection, and transacts banking and agency business generally.

The Directors are receiving applications for Four per Cent. Debentures in sums of £10 and upwards, secured upon the Freehold bank premises in the City of London and elsewhere.

Creditors of the old Bank can obtain Three per Cent. Debentures for the balance of their claims.

SECOND HAND MACHINERY FOR SALE:—

ONE 27 horse power semi-rotary ENGINE, 1000 boiler; ONE Hall's multiple action STONE BREAKER, 21 inch x 10 inch; ONE 30 inch CRUSHER complete; ONE 20 inch crusher; DRESSING MACHINERY, consisting of two self acting jiggling machines with four compartments; four ditto with three compartments; two ditto with two compartments; self acting classifiers and feeding apparatus; six round bumble: two very substantial sheds for bumble and jigger houses; complete rock drilling plant; 60 feet diameter water wheel x 3 feet breast; one 40 feet ditto x 3 feet 6 inch breast; two 28 feet ditto x 3 feet 6 inch breast. Within 2½ miles of railway station, and convenient for removal.

Apply,—

GEORGE GREEN, ABERYSTWITH.

FOR SALE, at the Inventions Exhibition, a splendid 9 inch quadruple acting compound cylinder PUMP, by Cameron, capable of delivering 60,000 gallons per hour.

For price and particulars apply to PRICE and BELSHAM, 52, Queen Victoria-street, E.C.

EMERY MINE FOR SALE for £10,000. Accessible to rail and port.

Specimens and particulars to be had on application to AYTON SAFFORD, Solicitor, 68, Buckingham Palace-road, S.W.

GOLD AND SILVER MINES OF NEW ZEALAND.

MR. HENRY TAPP, having just returned from a tour through the above Mines, will be glad to supply information as to their value.

Address, 41, St. Maur-road, Fulham, London, S.W.

MEXICO.

WANTED, a first-class MILL MANAGER with a thorough knowledge of the assaying and treatment of gold and silver ores; the mineral is rich in free gold, and contains silver in the form of antimonial silver and argentiferous grey copper; the climate is good; knowledge of Spanish preferable.

Apply by letter with full particulars of age, experience, &c., to R. S. ARCHBOLD, Dashwood House, New Broad-street, E.C.

J. A. JONES, MINING ENGINEER,

GIJON (ASTURIAS), SPAIN.

Mines inspected and reported on. Assays and valuations effected. Has on hand offers of Mines of Copper, Calamine, Blende, Phosphate of Lime, Tin, Lead, Iron, Manganese, and Manganiferous Iron Ores.

JAMESON and WOODS.

CONSULTING CIVIL and MINING ENGINEERS and METALLURGISTS. Particular attention devoted to Mines and Smelting Works in Europe. A speciality made of Eastern Europe.

Mines and Works inspected upon and valued on moderate terms.

Independent Mining Reports made upon properties in any part of the world, not general advice and counsel given on request.

Address—

27, KING STREET, CHEPSIDE, LONDON, E.C.

Registered Telegraphic and Cable Address: KOVITCH, London.

J. W. WESTMORELAND, F.I.C., Associate Royal School of Mines, London,

A'NALYST AND ASSAYER.

Special attention given to the Wet Assay of copper and Sulphur estimations. Assays of Gold, Silver, Lead, Arsenic, Antimony, Iron Nickel, Manganese, Zinc, and general Metallurgical Analyses.

LABORATORY—25, PARK SQUARE, LEEDS.

WM. BREDEMAYER,

MINING, CONSULTING, AND CIVIL ENGINEER, ROOM No. 11, HOOPER ELDREDGE'S BUILDING,

MAIN STREET, SALT LAKE CITY, UTAH,

United States Mineral Surveyor for Utah and Idaho, Notary Public, Geological Examinations, Reports on Mining Properties; Surveys Mines, Railroads, and Canals, and Superintends the Workings of the same. Prepares Estimates and Plans for Opening and Working Mines. Expert on Mining Questions before the Courts.

Address, P. O. Box, 1157, Salt Lake City, Utah.

ALMOST A MONOPOLY.

At the DOMINION EXHIBITION, held at Montreal in 1883, the ONLY MEDAL and DIPLOMA awarded for ASBESTOS was deeded to Messrs. IRWIN, HOPPER, and CO., of Montreal.

At the Universal Exposition held at Antwerp this year (1885), the only Gold Medal for Asbestos was awarded to Messrs. IRWIN, HOPPER, and CO., of Montreal.

Both the above exhibits were from the Eureka and Emilie properties which are to be acquired by this Company.

TWENTY PER CENT. DIVIDEND.

NEW INVESTMENT.

ALMOST A MONOPOLY.

Incorporated under the Limited Liability Acts, 1862 to 1883, which limit the liability of Subscribers to the amount of their Shares.

CAPITAL £50,000, IN 25,000 SHARES OF £2 EACH.

Of the above capital 7500 Shares (to be issued as fully paid up), representing £15,000, have been reserved for the Vendors in part payment of the properties to be acquired by this company.

The balance—17,500 Shares—are now offered for Subscription at par.

With option to pay up in full on allotment, receiving interest at 7 per cent. per annum on such prepayment. The Vendors have such confidence in the undertaking that they are willing, at the option of the Directors, to accept up to £15,000 more of the purchase money in shares, making a total of £30,000 in shares out of the £35,000 purchase money.

DIRECTORS.

CHARLES KEMP DYER, Esq., J.P., Lloyd's; and St. Albans, Herts.

BENJAMIN NEWSTEAD, Esq. (Messrs. J. F. Lovering and Co.), 77, Gresham Street, E.C.

WILLIAM WILSON, Esq., M.Inst.C.E., 13, Dean's Yard, Westminster, S.W.

WILLIAM HALL IRWIN, Esq. (Messrs. Irwin, Hopper, and Co.), Montreal, Resident Director.

BANKERS.—The CONSOLIDATED BANK (Limited), 52, Threadneedle Street, London, E.C.

SECRETARY.—MR. ROBERT H. JONES.

OFFICES—110, CANNON STREET, E.C.

This company is formed to purchase as a going concern two valuable Freehold Asbestos Properties, known as the Eureka and Emilie Estates, worked by Messrs. Irwin, Hopper, and Co., of Montreal, together with the goodwill and connection of that well-known firm, so far as it relates to the sale of the asbestos produced from the properties.

In close proximity to the properties of this company are situated the property of the Boston Packing Company, which does not offer its production for sale, using its entire output in its own manufacturing at Boston. Another company, whose property adjoins that last mentioned, was organised in 1884, with a paid up capital of £250,000 (£50,000); and the profits from its first six months' working—viz., from May 1 to October 25, were equal to about 25 per cent. per annum, and it is believed that their earnings during 1885 have been equally profitable. As that property was worked entirely by hand, without any machinery whatever, this result will afford some index to the anticipated profits of this company.

Beyond the above-mentioned properties there are three or four others, but these are of very limited extent.

The price of crude asbestos, owing to the rapidly increasing demand, is steadily advancing, the following being the average

prices at which the first quality Canadian product was sold during the past five years, viz.:—

In 1881, £50, or £10 per ton of 2000 lbs.

In 1882, £60, or £12 "

In 1883, £70, or £14 "

In 1884, £80, or £16 "

In 1885, £85, or £17 "

And choice parcels have been sold at £20 and £22 per ton.

It is the intention of the directors of this Company to exhibit extensively the products of the Company in the forthcoming Indian and Colonial Exhibition, 1886, to be held at South Kensington.

From an estimate supplied to the directors by Messrs. Irwin, Hopper, and Co.—without going into details, which in an industrial undertaking would obviously not be to the advantage of the shareholders to disclose—they state their conviction that from the first year's working the net profits will reach £11,000, and in the second year £17,000; equal to over 20 per cent. and 30 per cent. respectively on the £50,000 capital of the Company, and they express their confidence in the properties yielding enough asbestos

CLOSING OF THE LISTS.—The SHARE LIST will CLOSE on **C** or before TUESDAY, 10th inst., for TOWN, and on or before WEDNESDAY, 11th inst., for the COUNTRY.

The present plant and machinery are sufficient to earn dividends considerably beyond the preferential rate of seven per cent., but with additional working capital the directors have every reason to anticipate dividends largely in excess of that rate. ISSUE of £75,000 in 7500 SEVEN per CENT. PREFERENCE SHARES of £10 each. In addition to the cumulative preferential dividend of seven per cent. the above shares will rank pari passu with the ordinary shares in respect of surplus profits. The vendors guarantee minimum dividends of seven per cent. for three years, which will be payable half-yearly, on the 30th of June and 31st of December, at the Consolidated Bank (Limited).

THE BEAUMONT MACHINE TUNNELLING COMPANY (LIMITED).

CAPITAL £100,000.

Divided into 7500 Seven Per Cent. Preference Shares, and 2500 Ordinary Shares of £10 each, which latter will be allotted to the vendors in part payment of the property. Payment of the Seven Per Cent. Preference Shares £1 on application, £3 on allotment. Dividends will accrue from the respective dates on which payments are made.

DIRECTORS.

WILLIAM LLOYD, Esq., M.Inst.C.E., formerly Chief Engineer of the Chilian Government.—CHAIRMAN.

Lieutenant-General E. WRAY, C.B., Director G. Kynoch and Co. (Limited.)

*Colonel BEAUMONT, R.E., 26, Kensington Gardens Terrace, W.

*THOMAS J. BEWICK, M.Inst.C.E., Haydon Bridge, Northumberland.

(With power to add to their number.)

* Will join the Board after allotment.

BANKERS.—The CONSOLIDATED BANK (Limited), 52, Threadneedle-street, E.C., and Branches.

SOLICITORS.—Messrs. LE BRASSEUR and OAKLEY, 12, New-court, W.C.

BROKERS.—Messrs. WOOLLEY, LOWNDES, and CO., 7, Finch-lane, E.C.

SECRETARY.—Mr. HENRY O'NEILL.

OFFICES.—SUFFOLK HOUSE, LAURENCE POUNTNEY HILL, CANNON STREET, E.C.

ABRIDGED PROSPECTUS.

This company has been formed for the purpose of taking over as a going concern and of further developing and extending the well-known and important undertaking of machine tunnelling carried on by Colonel Beaumont, R.E., and Mr. T. J. Bewick.

The machine has been employed with the utmost success in the following undertakings, among others. (a) Under the Channel, the total distance driven being 2½ miles. (b) At the Mersey Tunnel, a total of 1½ mile having been driven.

The following contracts are at present in course of execution:—1. With the Great Western Colliery Company (Limited), South Wales; 2. Bridgewater Trust, near Manchester.

Very important tunnelling contracts for the Mersey Railway have just been completed, but the directors are informed that a further large contract with that railway company is under negotiation. The works of the Manchester Ship Canal will probably necessitate the construction of a drainage tunnel 10 miles in length. The tunnelling contracts (5½ miles) in connection with the Manchester Waterworks (Thirlmere scheme). Various other important contracts are under consideration.

The rapid development of the tunnelling business requires larger resources than the present owners have at their command, and it is solely for this reason that they have determined to convert their undertaking into a joint-stock company.

The Beaumont Tunnelling Machine possesses a practical monopoly over all machines invented for a similar purpose, and the number and magnitude of the works already contemplated in England, India, on the Continent of Europe, and in the United States justify the directors in entertaining a conviction that the future of the undertaking will be prosperous and secure.

If, as is not improbable, the Legislature will shortly put a stop to blasting operations altogether in coal mines, the Beaumont machine will practically be the only available substitute for driving rock headings, and an unlimited amount of work from this source alone can probably be commanded at remunerative prices.

The business to be taken over by the company is of a very profitable character, and capable of realising large dividends. For obvious reasons the directors do not consider it desirable to enter into details as to the profits on contracts, but calculations, based upon past experience, justify them in anticipating dividends considerably surpassing the preferential dividend of 7 per cent.

The purchase consideration for the undertaking, together with all the plant and machinery, is £60,000, of which £25,000 is accepted in deferred shares, and the balance in cash, or partly in cash and partly in 5 per cent. debentures and preference shares in lieu of cash. It will thus be seen that the vendors have the greatest confidence in the prosperity of the undertaking.

The directors desire to draw attention to the great rise in the value of shares in industrial undertakings lately converted into joint-stock companies, and they think there is every reason for anticipating a similar success for this concern. Application for a quotation on the Stock Exchange will be made in due course.

The vendors guarantee minimum dividends at the rate of 7 per cent. per annum for three years from 15th October, 1885.

The only contract entered into on behalf of the company is dated the 28th October, 1885, and made between F. B. Beaumont and T. J. Bewick on the one part, and H. O'Neill, as trustees of the company, of the other part. Copies of the same may be seen by subscribers at the office of the solicitors of the company, together with Memorandum and Articles of Association.

Applications for shares to be accompanied by a deposit of £1 per share. Where no allotment is made the deposit will be returned in full.

Fall prospectuses, with certificates from the Great Northern and Mersey Railways, and Forms of Application may be had of the bankers and brokers, and at the offices of the company.

THE OURO PRETO GOLD MINES OF BRAZIL (LIMITED).

Notice is hereby given, that the SECOND ORDINARY GENERAL MEETING of this company will be HELD at the Cannon-street Hotel, in the City of London, on TUESDAY, the 10th day of November next, at 12:30 P.M.

The Transfer Books will be closed from the 3rd to the 10th November, both days inclusive.

By order of the Board,

W. G. WILLIAMS, Secretary.

Registered Office: 8, Queen-street-place, E.C., London, 23rd October, 1885.

MECHANICAL ENGINEER, MILLWRIGHT, &c.—Advertiser, who has been five years in the employ of Mining Companies in the tropics, is NOW OPEN to RE-ENGAGEMENT. Has had charge of engines, stamps, concentrating and ore dressing machinery, pumps, the laying of small railway tracks, &c. Speaks Spanish. Has excellent testimonials.

Address, W. T. GEORGE, MINING JOURNAL Office, 26, Fleet-street, E.C.

NEW TERRAS MINE.

TO CARPENTERS AND OTHERS.

TENDERS are INVITED for the ERECTION of 100 HEADS of STAMPS at the above Mine.

For particulars apply at the Office of the Company, Grampound-road, Cornwall.

NEW TERRAS MINE.

TO MINERS AND OTHERS.

TENDERS are INVITED for the SINKING of the ENGINE SHAFT 30 fathoms deeper, and other work.

For particulars apply to Captain EADE, at the Mine, Grampound-road, Cornwall.

MINE "EL CALLAO,"
32,200 SHARES,
GUAYANA, VENEZUELA.

Gold in bars produced in the month of September, 1885, remitted to Messrs. Baring Brothers and Co., London—10,841.97 ozs.

DIVIDEND distributed for each share, 12 francs.

(Signed) A. LICCIANI, President.

(Signed) VICTOR J. GRILLET, Treasurer.

YORK AND LANCASTER UNITED MINES COMPANY (LIMITED).

IN LIQUIDATION.

Rimington, near Clitheroe.

The Mines of this Company, producing lead ores, barytes, and calamine up to the date of Liquidation, together with all the WORKING PLANT, MACHINERY, and BUILDINGS, TO BE DISPOSED OF BY PRIVATE TREATY.

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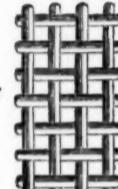
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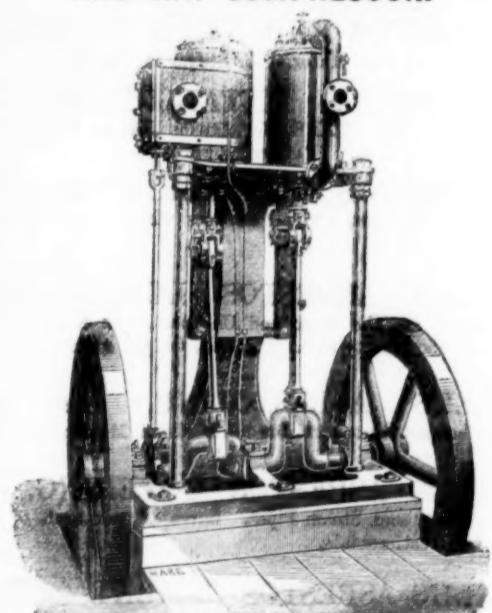
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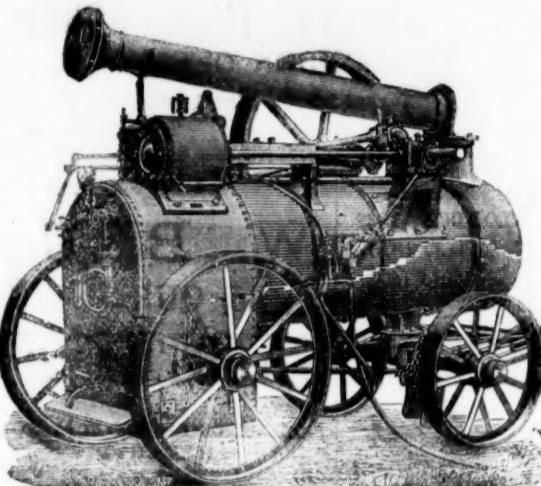
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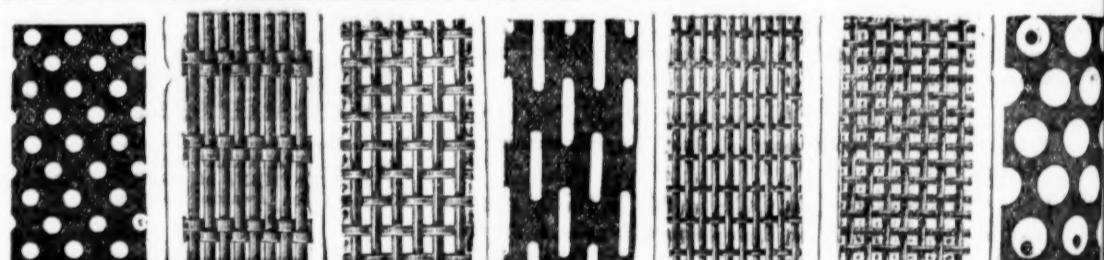
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Awarded the ONLY Gold Medal for Stonebreaker at the International Inventions Exhibition, in competition with all other makes.

TO BE SEEN AT WORK AT THE INVENTIONS EXHIBITION, No. 1129, GROUP 10, WEST GALLERY, One 8 inch by 6 inch STONEBREAKER, can be worked by hand; and One 6 inch by 1½ inch PULVERIZER OR FINE CRUSHER.

THE BLAKE-MARSDEN 1884 Patent Lever Hand-Hammer Action Stonebreakers and Ore Crushers, NEW PATENT FINE CRUSHER OR PULVERIZER.

Fitted with Patent Reversible Cubing and Crushing Jaws in Five Sections, and with Surfaced Bars, requiring no White Metal in fixing. Crucible Cast Steel Levers and Toggle Cushions, Brass or Gun Metal Bearings throughout.

OVER 5000 IN USE.

PULVERIZER TESTIMONIALS.

"The Fine Crusher we had from you in August last is an excellent pulverizer, and rapidly reduces hard material to a fine powder."

"The Pulverizer has now been working two months, and answers its purpose most satisfactorily."

"It is with the greatest satisfaction that we write these few lines in order to acquaint you that the 12x3 Pulverizer you supplied us with, has quite fully given the results you represented to us, completely reducing our material to an impalpable powder at one operation. Should you refer any one to us we should have much pleasure in recommending this machine."

"I have great pleasure in bearing testimony to the merits and capabilities of your patent combined fine crusher and sieving apparatus. I have tried it on a variety of ores and minerals, and it pulverizes them with equal success. You can put it in a small paving stone and bring it out like flour."

"In reply to your favour, I have much pleasure in informing you that the 12x3 Pulverizer we had from you is giving us every satisfaction. The material we are operating on is an exceptionally hard one. I am well satisfied with its working."

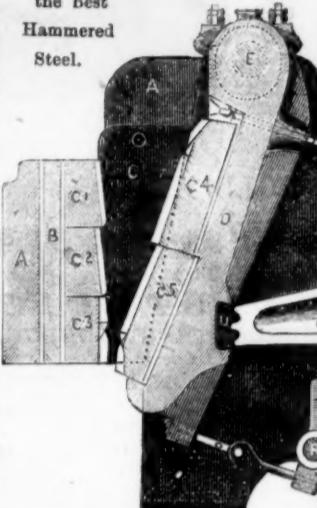
"Our experience is that the motion and mechanical arrangements of your machine are the best for pulverizing that we have ever met with."

"The reports from our mines as regards the working of your Fine Crusher (20x5) recently supplied are very favourable, although we cannot quote you exact figures. On being got into position it was tried by hand, with the result that it made short work of the biggest pieces of ore we put into the hopper. You might say how long you would take to deliver another of the same size."

"As I once before stated, your machine is a perfect pulverizer."

"I am sure the machine will be a success, and a great one, and there is any amount of demand for such a machine. We can work it with 20 lbs. of steam, and our engine, which is a 12 h.p., plays with the work, in fact we run the Stonebreaker and the Pulverizer both together with 35 lbs."

All Shafts and Axles are made of the Best Hammered Steel.



CATALOGUES FREE.

H. R. MARSDEN,
SOHO FOUNDRY,
LEEDS.

Positive Draw Back Motion, taking no power to work, and entirely dispensing with the old expensive Steel Embedded I.R. Spring. The motion or length of Stroke of the Jaw can be increased or decreased at pleasure, to suit any material.

70 First-Class Gold and Silver Medals.

STONEBREAKERS AND ORE CRUSHERS TESTIMONIALS.

"We have great pleasure in testifying to the efficiency of the 15 in. by 8 in. Lever Hand Hammer Motion Stone Breaker you supplied us with. We find that our 4 h.p. Engine with ease drives it 200 revolutions per minute, and breaks six tons per hour of the hardest "Diorite" Whinstone; the sample is much before any hand-broken we have ever got done. Our Mr. P. J. GRAHAM, C.E., who was Surveyor of Highways for ten years, before joining our firm, says it is by far the most economical machine he ever had to do with; he had two of your former make, and two of another firm's make; compared with these four machines, your new patent gives the following advantages:—The horse-power required to drive it is only 40 per cent. less. The sample of the broken material is as far superior to that broken by other machines, and even to that broken by hand, that we can make no comparison. It is by far the best sample we have ever seen."

"I now order three of your Stone Crushers, size 15 by 10, to be of your very best construction, and to include two extra sets of Jaws and Cheeks for each. The last two 24x13 machines you sent me, which are at work in this colony, are doing very well. You will soon find that the railway contractors will adopt your machines in preference to the colonial ones—two of which I have. I know other contractors have had as many as nine of them, which have not given very good satisfaction. Once they know of you thoroughly, I believe you will do a good trade with the colony. For reference of the high character of your constructions you can refer to me as having used them with the very best results, both in New Zealand and this colony, and much prefer them to the colonial article, both in point of construction and liability to go out of order. The material we are crushing is very hard blue stone, for railway ballast purposes. Push on with the order as quickly as possible. I do not think it necessary to have any engineering inspection. I have brought your machine prominently under the notice of all large contractors in the colony, likewise the Government. Many of the contractors have spoken to me in reference to the capabilities, and I could only tell them that they are by far and away the best and most economical we have used. The very fact of having purchased eleven from you at various intervals and various sizes, and two above 12 years ago, and having tried all the other makers insufficient guarantee of the capabilities and the working of your machines. Yours in every way surpass all others."

THIS HAND-HAMMER ACTION STONEBREAKER TAKES MUCH LESS POWER THAN ANY OTHER EXISTANT.

JOHN CAMERON'S SPECIALITIES ARE HIS STEAM PUMPS FOR COLLIERY PURPOSES.

Specially adapted for forcing Water any height

ALSO, FOR

SINKING, FEEDING BOILERS AND STEAM
FIRE ENGINES,

of which he has made over 9000.

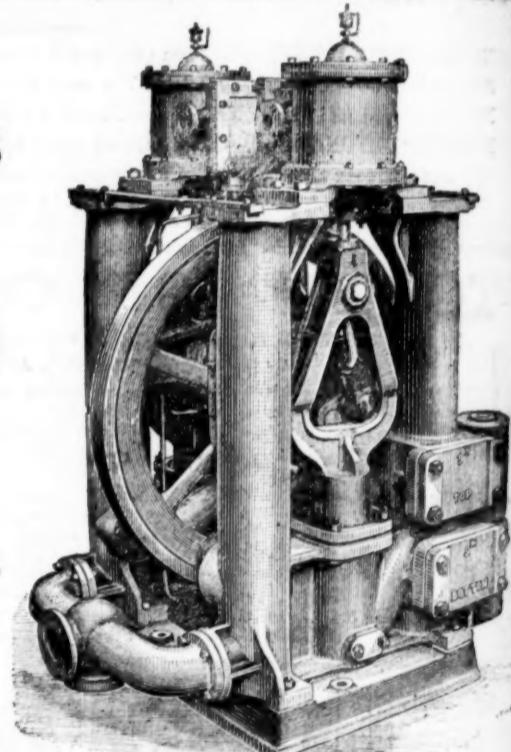
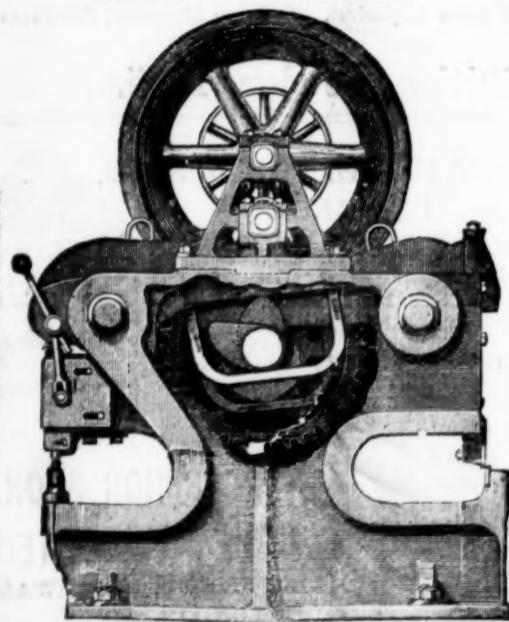
ALSO, HIS

PATENT CAM AND LEVER
PUNCHING & SHEARING MACHINES.

Works: Oldfield Road, Salford,
Manchester.

AGENTS { For LONDON and DISTRICT—PRICE and BELSHAM,
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For NEWCASTLE and EAST COAST—E. BECKWITH AND CO.,
BONNERSFIELD, SUNDERLAND.

DISENGAGING APPARATUS.



By a special method of preparation this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of—

HEPBURN AND GALE, LIMITED,

TANNERS AND CURRIERS,
LEATHER MILL BAND AND HOSE PIPE MANUFACTURERS,
LONG LANE, SOUTHWAKE, LONDON.

Prize Medals, 1851, 1855, 1878, for
MILL BANDS, HOSE, AND LEATHER FOR MACHINERY PURPOSES.

INCREASED VALUE OF WATER-POWER.

MacADAM'S VARIABLE TURBINE.

This Wheel (which is now largely in use in England, Scotland, and Ireland) is the only one yet invented which gives proportionate power from both large and small quantities of water. It can be made for using a large winter supply, and yet work with equal efficiency through all variations of quantity down to a fifth, or even less if required. It is easily coupled to a steam-engine, and in this way always assists it by whatever amount of power the water is capable of giving, and therefore saves so much fuel.

This Turbine is applicable to all heights of fall. It works immersed in the tail-water, so that no part of the fall is lost, and the motion of the Wheel is not affected by floods or back-water.

These Turbines are at work in nearly every country in England. Apply to—

MacADAM BROTHERS AND CO.,
BELFAST.

ESTABLISHED 1825.

EDWIN LEWIS AND SONS,

Patent Tube Works, MONMORE GREEN and Britannia Boiler Tube Works, ETTINGSHALL,
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MANUFACTURERS OF

Lapwelded & Butt-welded Wrought-iron, Steel, or Homogeneous Tubes
FOR EVERY

COLLIERY OR MINING PURPOSE.

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Manufacturers of

CRANE, INCLINE, AND PIT CHAINS,

Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPADES,
FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS,
RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &c., &c.

Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions.

WELDED STEEL CHAINS

FOR CRANES, INCLINES, MINES, &c.,
MADE ALL SIZES.